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# REGIONAL TRANSPORTATION PLAN



Lower Pioneer Valley Regional Planning Commission May 1980



LOWER PIONEER VALLEY REGION

TRANSPORTATION PLAN

May 1980

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GOVERNMENT DOCUMENTS

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# LPV REGION TRANSPORTATION PLAN

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# LPV REGION TRANSPORTATION PLAN

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This document is the Lower Pioneer Valley Region's Transportation Plan for 1980 and the years beyond. Previously, the Transportation Plan consisted of two separate documents: the Transportation Systems Management Element (TSME) and the Long Range Element (LRE). However, this year these two components of the regional Transportation Plan have been combined and synthesized into one unified, integrated and comprehensive planning document.

The TSME addresses the transportation needs of urbanized areas through short-range measures which are low or non-capital intensive and that can be implemented in a 3 to 5 year time frame. The LRE provides for the long-range transportation needs through the introduction of new transportation policies and facilities or major revisions to existing facilities that can be implemented in an 8 to 10 year time frame.

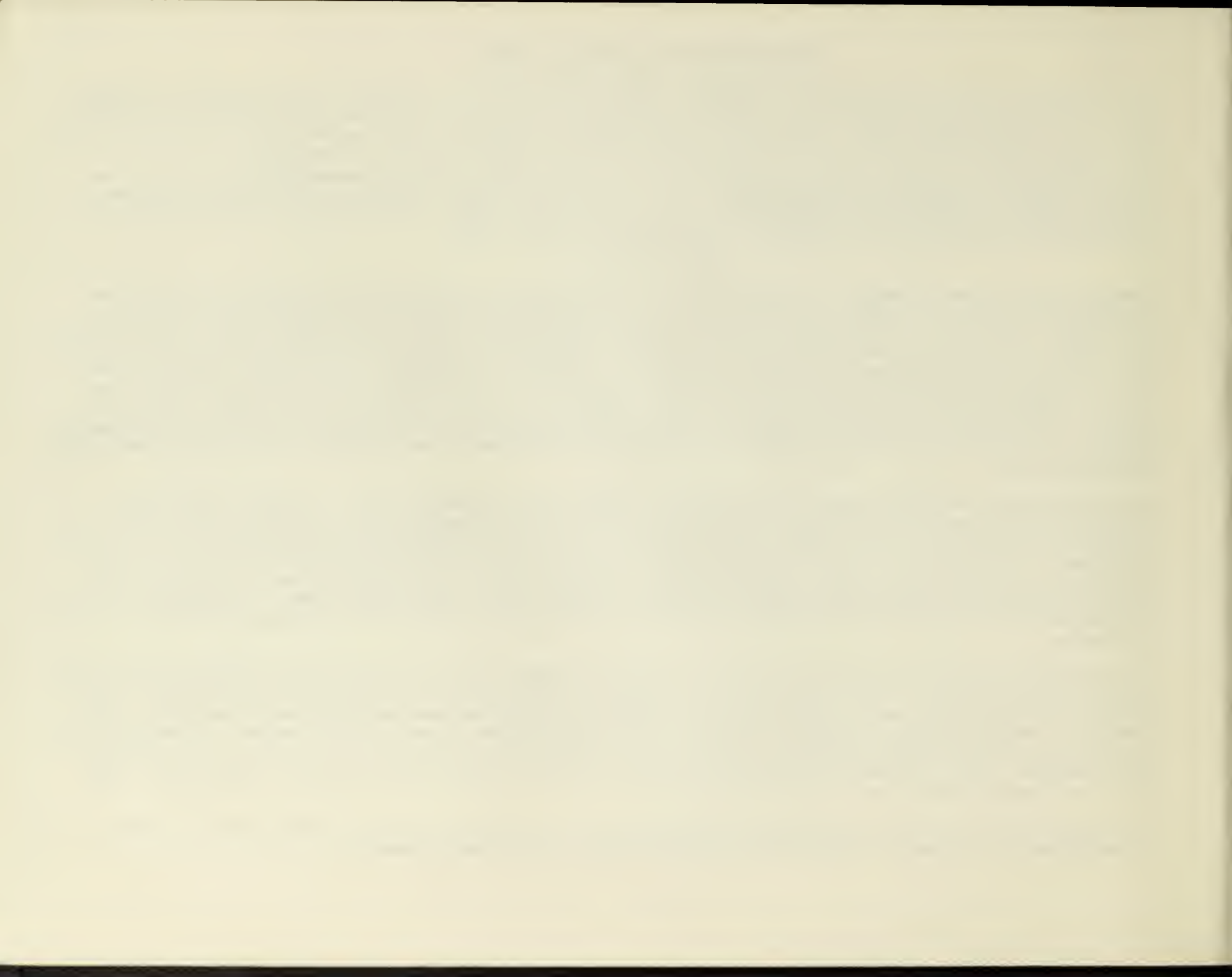
#### TSME SUMMARY

Transportation Systems Management, by definition, is a federal planning concept which views existing streets and highways, public transit systems, rail trackage, parking and pedestrian facilities and transportation vehicles, both public and private, as components of a single urban transportation system. The Transportation Systems Management Element (TSME) is designed to address the short term transportation needs of urban areas through more efficient use of existing transportation resources. In addition, it provides a mechanism by which general societal goals such as energy conservation and environmental quality improvement can be realized. It involves the establishment of key transportation goals and objectives; the identification of a range of primarily short-range, low or non-capital intensive actions helpful in achieving these goals and objectives (i.e., various transportation management, operating, regulatory, and pricing measures); and provides the stimulation and coordination of these actions toward designated ends.

The first TSME for the Lower Pioneer Valley Region was produced by the LPVRPC in 1977. Because the 1975 TSM regulations were a substantial departure from previous federal transportation planning policies, neither the Joint Transportation Committee nor the LPVRPC staff were prepared to produce a comprehensive TSME document at that time. As a result, the initial 1977 report primarily inventoried TSM-type actions and planning activities in the Region. Consequently, the first TSME can be characterized as a planning "report," rather than a part of a comprehensive plan upon which future transportation planning decisions could be based. The current TSME, in contrast to the first, is a prescriptive document. It is intended to guide future short range transportation planning activities in the LPV Region.

The TSM planning process began with a review of a body of information which included regional transportation goals, policies, and objectives; federal TSM regulations, guidelines, and policies; background data concerning the Region and the existing transportation network; and an inventory of TSM-related planning activities in the Region. The three tasks which then were undertaken consisted of identifying regional transportation problems; prioritizing these problems; and developing TSM solutions to the problems. Comprehensive profiles of each of the proposed solutions were prepared. All of this work was carried out as a joint effort by staff and members of a special Joint Transportation Committee Ad Hoc Task Force on TSM planning.

The comprehensive profiles of the proposed solutions represent the major findings and results of this document. Presented below is a summary outline of the recommendations made in these proposals.



## PROGRAM: INTERSECTION CONTROL/TRAFFIC FLOW IMPROVEMENTS

- (1) Produce and distribute an intersection modification manual.
- (2) Assist in the development of ordinances restricting curb cuts in or near intersections.
- (3) Identify and remove unnecessary traffic signals.

## PROGRAM: BUS STOPS - LOCATION, SIGNING, PARKING

- (1) Analyze bus stop locations in each PVTA member community.
- (2) Take steps to place signs at both ends of all bus stops.
- (3) Work with police to step up the enforcement of ordinances against parking at bus stops.

## PROGRAM: TRAFFIC-RELATED PROBLEMS - REGULATION AND ENFORCEMENT

- (1) Coordinate with police to step up enforcement of ordinances against double parking; encourage and assist in the drafting of stiffer ordinances; assist in identification of appropriate locations for, and ordinances creating, "no parking - stopping only" zones; analyze downtown parking policies and plans.
- (2) Develop and implement an educational program on bicycle safety in area schools; enforce laws which create exclusive bike lanes; investigate ordinances pertaining to bicyclists who violate the law.
- (3) Improve traffic control around roadway construction sites through enforcement of state signing laws; survey local ordinances pertaining to this.
- (4) Improve lines-of-sight at intersections by stricter enforcement of ordinances prohibiting parking in or near them, and by passing and enforcing ordinances requiring trees and shrubs which may obscure traffic signals and stop signs to be trimmed.

## PROGRAM: RECONSTRUCTION OR UPGRADING OF PAVEMENT AND ROADWAY GEOMETRICS ON BUS ROUTES

- (1) Establish channels of communication, regarding road conditions, between bus companies and PVTA member communities.

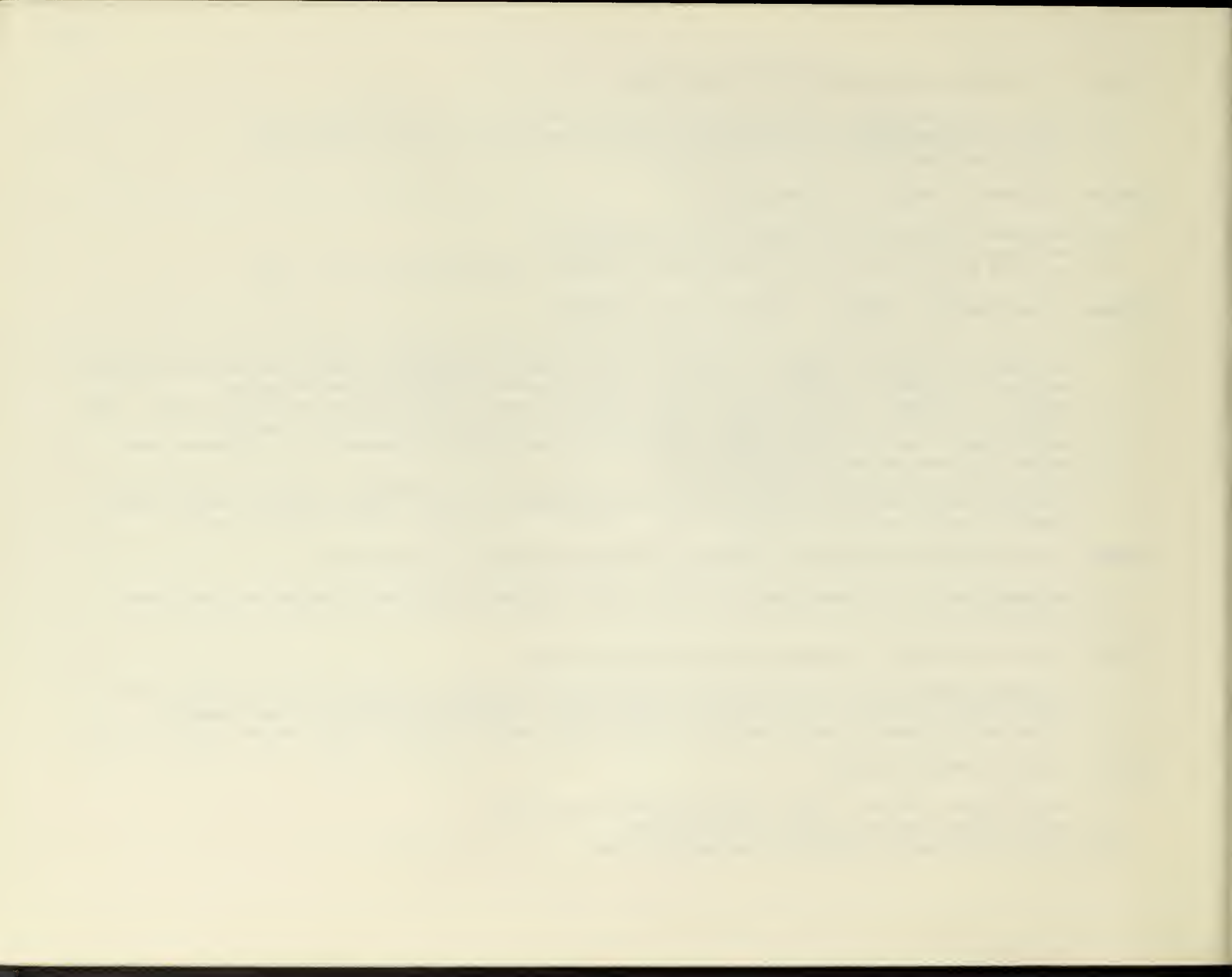
## PROGRAM: BICYCLE FACILITIES - STANDARDS AND MAINTENANCE PRACTICES

- (1) Encourage municipalities to apply existing roadway grate standards; to clean and maintain bike lanes and road shoulders on preferred bike routes; to apply higher, recommended bikeway signing standards.
- (2) Investigate differential paving measure for feasibility, and if indicated, begin implementation process.

## PROGRAM: IMPROVED TRAFFIC SIGNING

- (1) Provide signs to divert through traffic around downtown areas.
- (2) Provide better signing to major trip generators.
- (3) Ensure that signs are indicating the optimum route.





## PROGRAM: DEVELOPMENT OF PARK-N-RIDE LOCATIONS ON PVTA BUS ROUTES

- (1) Continue to develop park-n-ride locations.

## PROGRAM: IMPROVE AND EXPAND PVTA INFORMATION DISTRIBUTION

- (1) Continue to work at improving the information distribution techniques for the PVTA.

Detailed project action plans and implementation structures must now be developed. Each action plan/implementation structure will include a detailed description of the project; the identification of every agency which will take part in its implementation; a review of the tasks which each implementing agency will be required to carry out; recommended measures for coordination among the various agencies; and recommended measures of effectiveness and techniques for monitoring the project after it has been implemented.

The development of the project action plans will carry this process beyond the conceptual stage into the beginning of the implementation process. The Task Force will continue to provide valuable input during the development of the project action plans. In addition, as projects in specific communities are identified, an extensive dialogue with local officials in the municipalities concerned will begin, and this dialogue will continue throughout the implementation process.

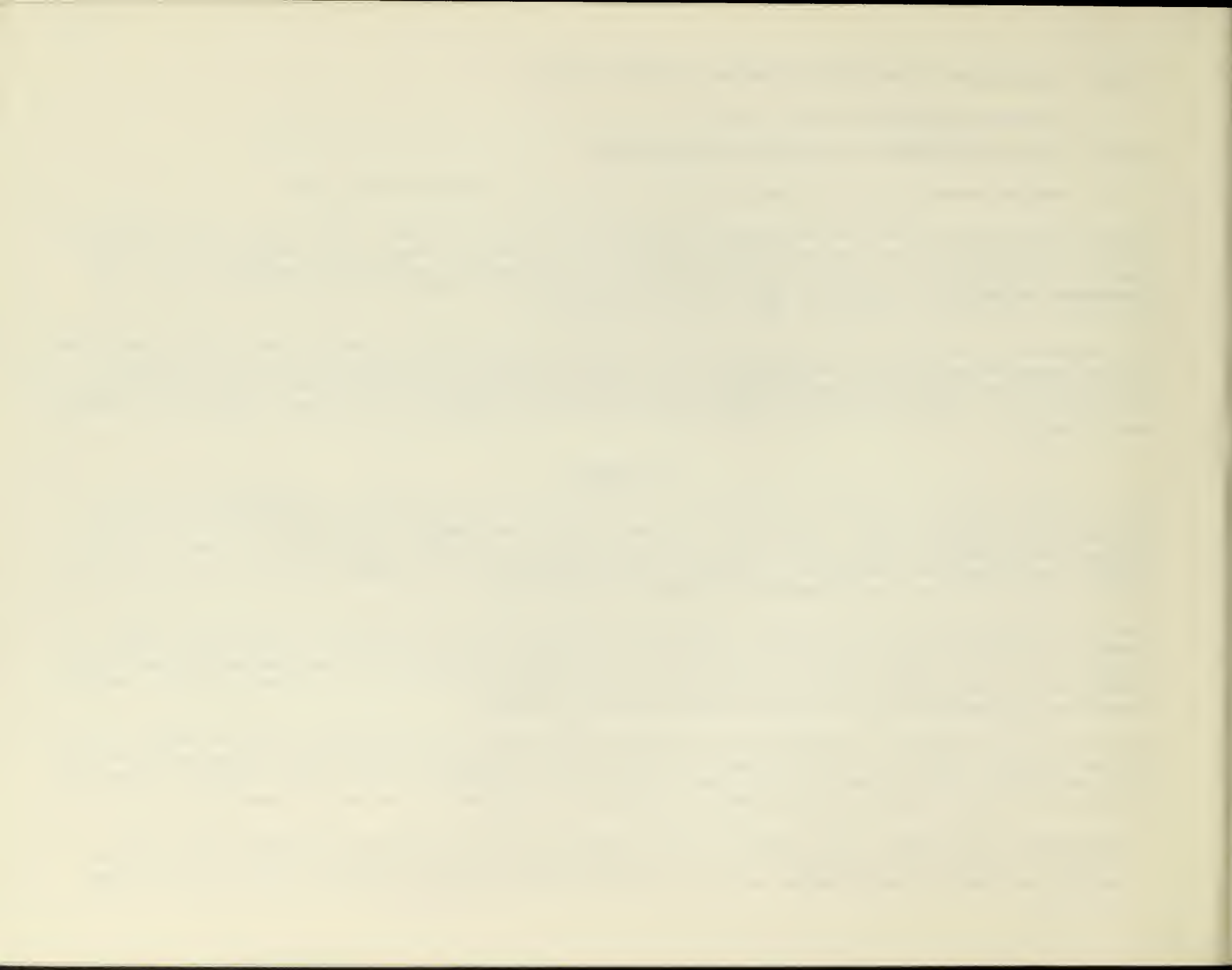
#### LRE SUMMARY

The Long Range Element is intended to provide for the long-range transportation needs of urbanized areas such as the Lower Pioneer Valley Region. Identified in the LRE are major new transportation facilities to be constructed, proposed major changes to existing facilities, and long-range policy options. The LRE may, for example, include: adding a new highway link, developing an exclusive transit busway lane on a freeway, or citing future land development policies that might impact transportation patterns and facilities.

The LRE is designed to serve as the region's general development program for all major transportation projects proposed for implementation in the upcoming 8-10 year period. Projects of all the region's transportation modes (highway, rail, air, transit, bicycle and pedestrian) are included provided that the proposed projects are capital and/or time intensive, regionally acceptable, and not presently under construction. The remainder of this section summarizes the highlights of the Long Range Element for the LPV Region.

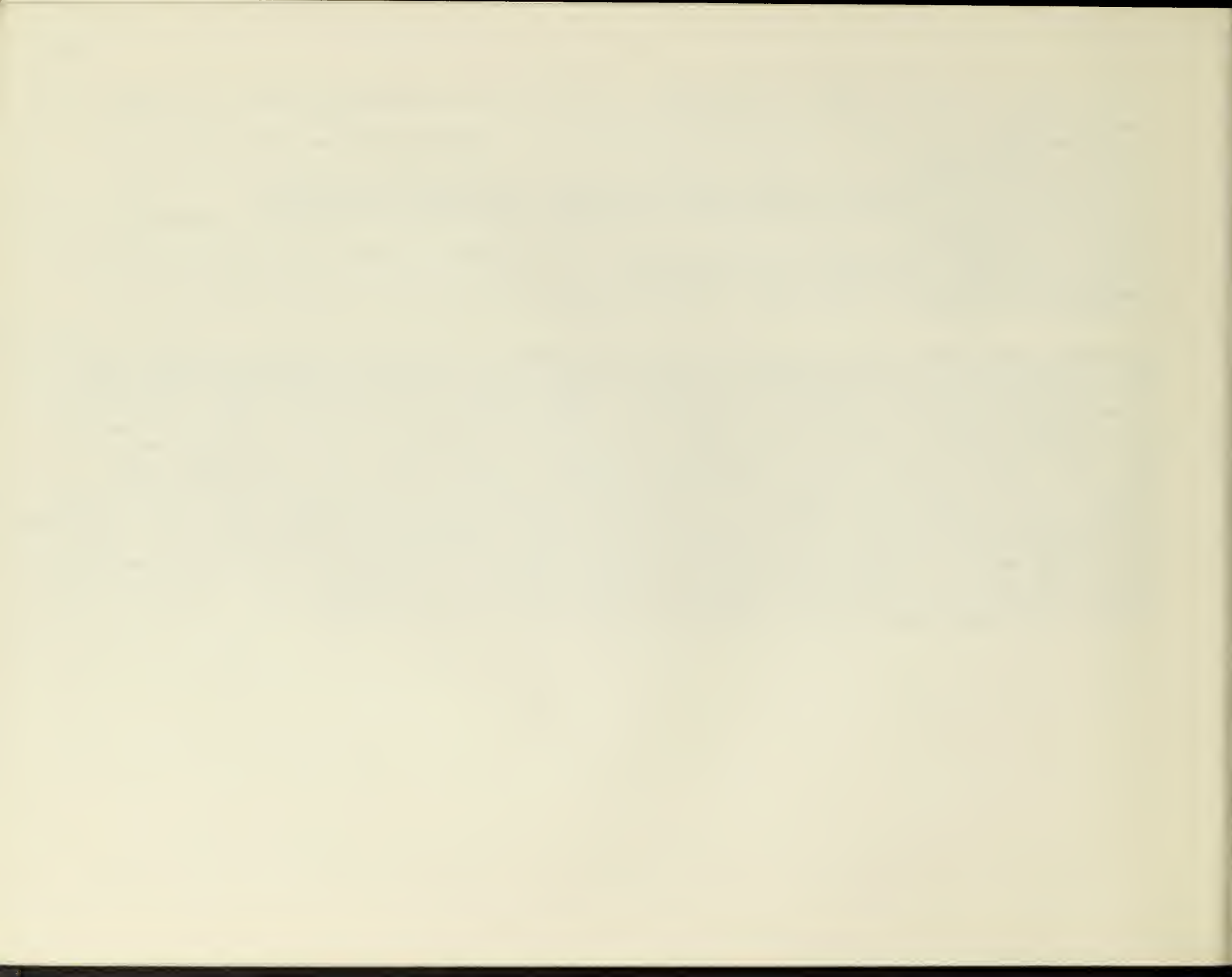
There have been several major transportation issues and trends evident in the LPV Region since the region's initial LRE was published in 1977. These issues and trends have, and will continue to have, a major impact on the future development of the region as well as on necessary planning for transportation services and facilities to meet long range needs. Among the major trends and issues affecting the region and its long range transportation needs are:

- Energy Crisis: the growing concern about the rapidly escalating price and frequent shortages of motor fuel.
- Environmental Quality Issues (general): the growing awareness and concern on the part of the people about the immediate and long term environmental impacts of either constructing new or extending existing transportation facilities.



- Special Mobility Problems (elderly and handicapped): the need to meet the transportation needs of the elderly and handicapped.
- Urban Revitalization vs. Sprawl Development: an overall goal is to revitalize the urban core of the region and minimize suburban sprawl.
- Air Quality Standards: increasingly strict standards for fixed and mobile source air pollution will require stricter policies and controls of transportation, particularly in the region's urban centers.
- Transportation Innovations: increasing interest in carpooling, paratransit, bicycling and other innovative modes of transportation.
- Fiscal Considerations: limitations in federal and state funds, as well as the amounts that local communities can realistically afford, must be taken into consideration.
- TSM Emphasis: an important regional goal is to obtain maximum efficiency from the existing transportation resources in the region.

The several transportation trends, issues, and needs described above serve to identify many of the project proposals that now constitute the Long Range Element of the Transportation Plan. The specific transportation trend, issue, or need is first defined and then addressed in the form of a proposed project solution to be eventually implemented by some governmental entity, typically the local, state, or federal government. The proposed project solution, whether it be a highway extension, bikeway or rail line, in turn, becomes a transportation problem or deficiency to be addressed in the form of a corridor study or special needs assessment performed by the most appropriate governmental body. This analysis process involves the preparation of perhaps a Corridor Design Study, Environmental Impact Statement or other feasibility assessment that both defines the problem or need and describes how it can best be resolved. Upon the completion and approval of the feasibility analysis phase of a project, it then becomes eligible for inclusion in the Long Range Element of the Transportation Plan. The Long Range Element proposals are then screened by the LPVRPC transportation staff in consultation with local, state, and regional agencies and officials. Once it is determined that a given project proposal is consistent with the goals and objectives of the Regional Transportation Plan, it then becomes a component of the region's Long Range Element of the Transportation Plan. The following list contains the approved Long Range Element projects for this revision of the Transportation Plan. Full details of the individual Long Range Element project proposals can be found in Section IV of this Report.



## LPV REGIONAL SETTING: TRANSPORTATION SYSTEM AND ISSUES

Overview of Lower Pioneer Valley Region

The Lower Pioneer Valley, which incorporates the Springfield-Chicopee-Holyoke Urbanized Area, comprises 1,178.3 square miles in Western Massachusetts (see Figure 1). The Region is bounded on the south by Connecticut, on the west by the Berkshire Hills, on the east by the Quabbin Reservoir, and on the north by Franklin County.

As the Region's name suggests, the dominant physical characteristic is the broad valley formed by the Connecticut River, which bisects the Region as it flows southerly to Long Island Sound. In the past, the limited number of bridges spanning the river has acted as a barrier to the east-west movement of people and goods.

The population of the Lower Pioneer Valley Region was estimated to be 606,600 in 1975\*. The Region includes all five cities and 38 towns which make up Hampden and Hampshire Counties. Springfield, Chicopee, and Holyoke are the three largest cities, but other important Regional sub-centers include the communities of Westfield, Northampton, and Amherst, and to a lesser extent Palmer and Ware.

The multi-nucleated character of the Region has tended to reduce the intensity of the existing major activity centers. Downtown Springfield, by far the largest generator of travel, does not exhibit the regional dominance found in other central cities such as Hartford, Albany, and Worcester. Because central functions are dispersed among several centers, automobile congestion is less of a problem than is typical of many similarly-sized urban areas.

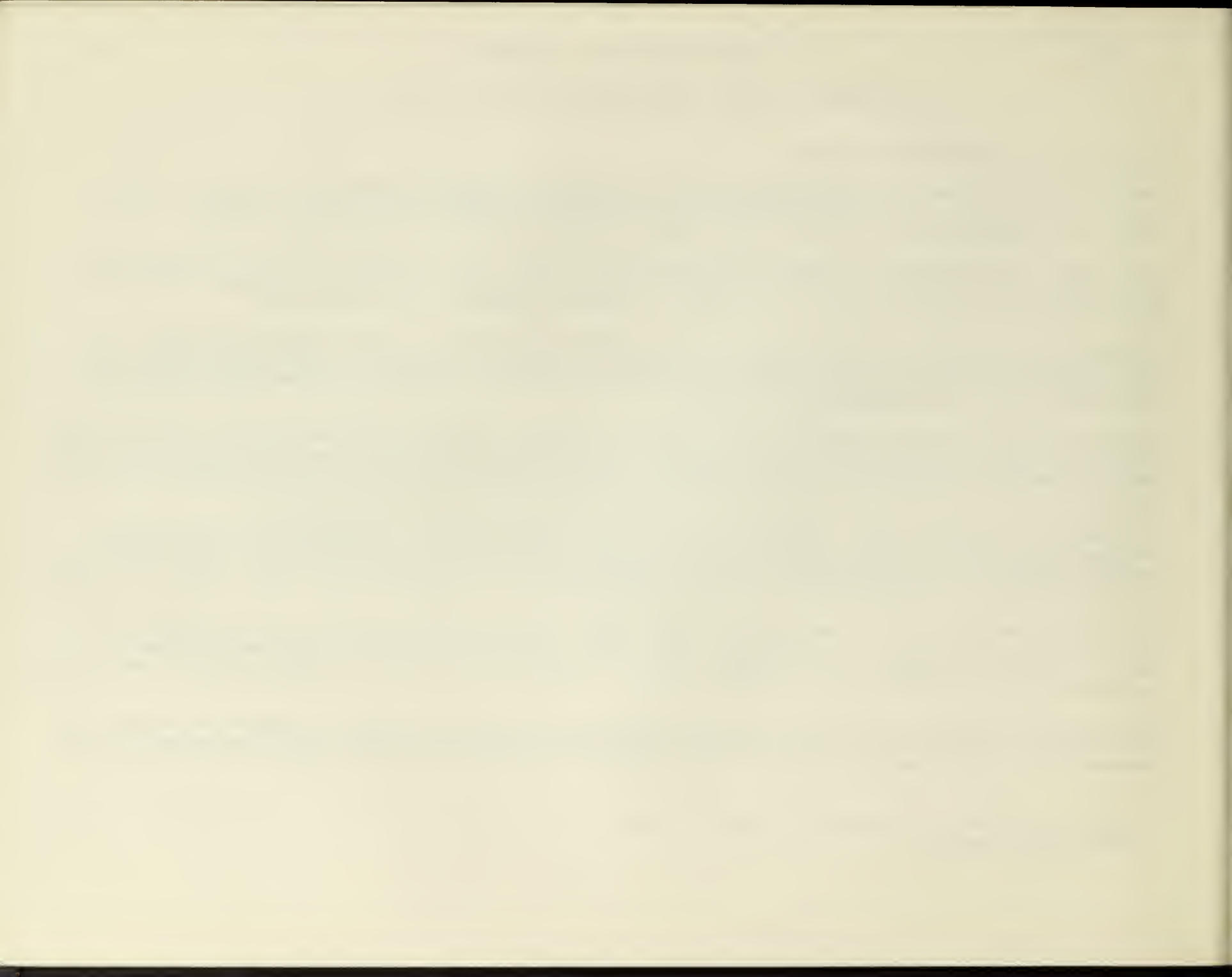
The Region has historically been a transportation crossroads in Massachusetts. Originally, the east-west Boston and Albany Railroad met the north-south New Haven and Boston and Maine Railroads in Springfield. Today, the Massachusetts Turnpike (I-90) intersects Route I-91 in West Springfield. As a result the Lower Pioneer Valley has remained at the crossroads of transportation in Western Massachusetts.

Since its settlement in 1636, the Region has been more closely linked with the Connecticut River Valley than with other portions of Massachusetts or New England. Consequently, the Region's growth has paralleled the growth of the valley as a whole, and together with the neighboring Hartford metropolitan region, has dominated commerce and industry throughout the lower portions of the Connecticut Valley.

Over the past two decades, there have been important changes in population distribution throughout the Region. The overriding trend in the 1960's and early 1970's was towards rapid suburbanization on a regional scale and concurrent abandonment of the deteriorating urban core. This trend was fueled by such factors as: improved mobility with new

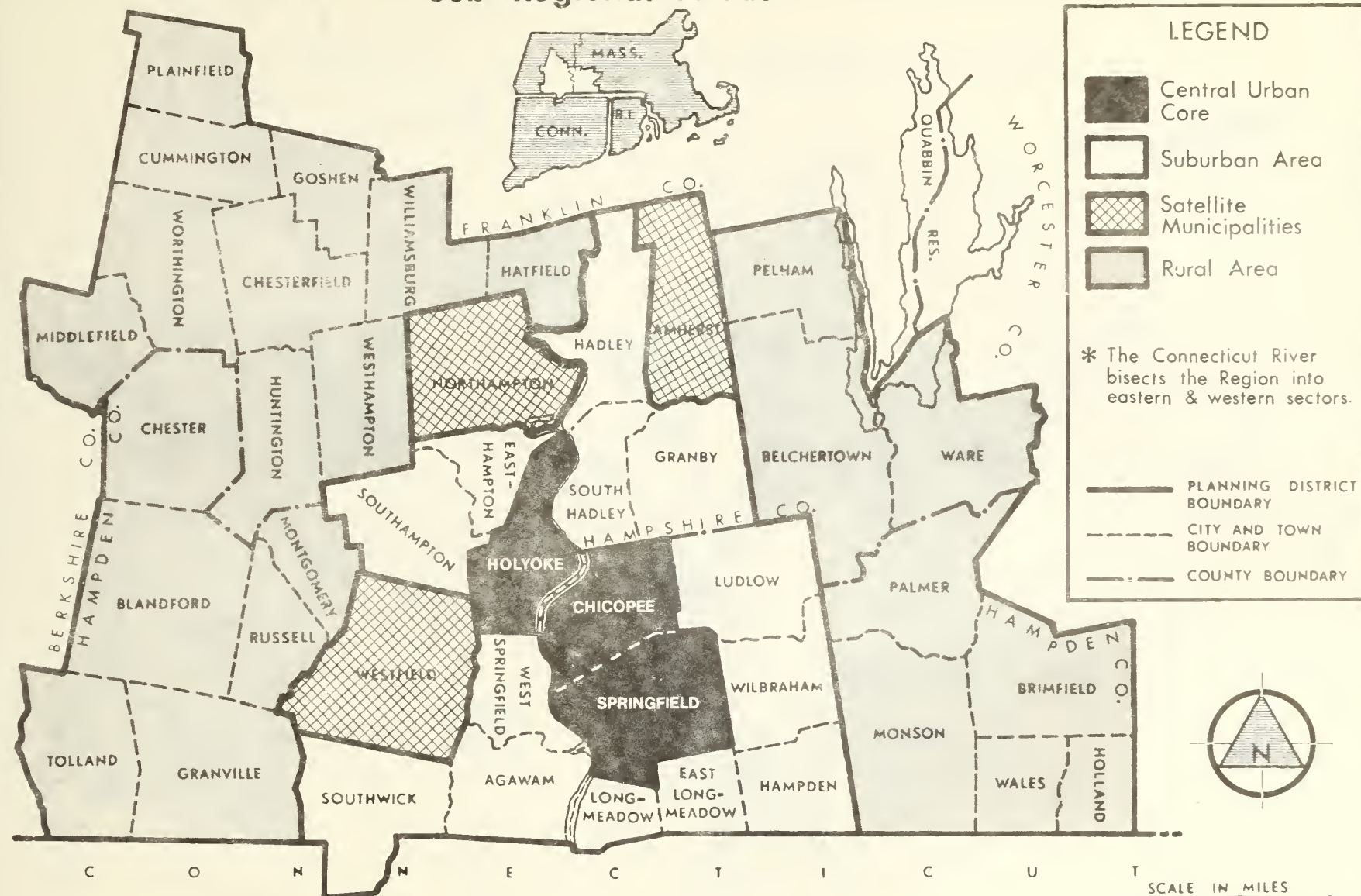
\* Developed by LPVRPC in cooperation with the Massachusetts Office of State Planning using 1975 State Census Figures - LPVRPC working document.







# Sub-Regional Areas



LOWER PIONEER VALLEY REGIONAL PLANNING DISTRICT

FIGURE 1



# LOCATION OF TOTAL POPULATION (1970)

(1975 POPULATION EST. 606,600)

● Each Dot Equals  
250 People

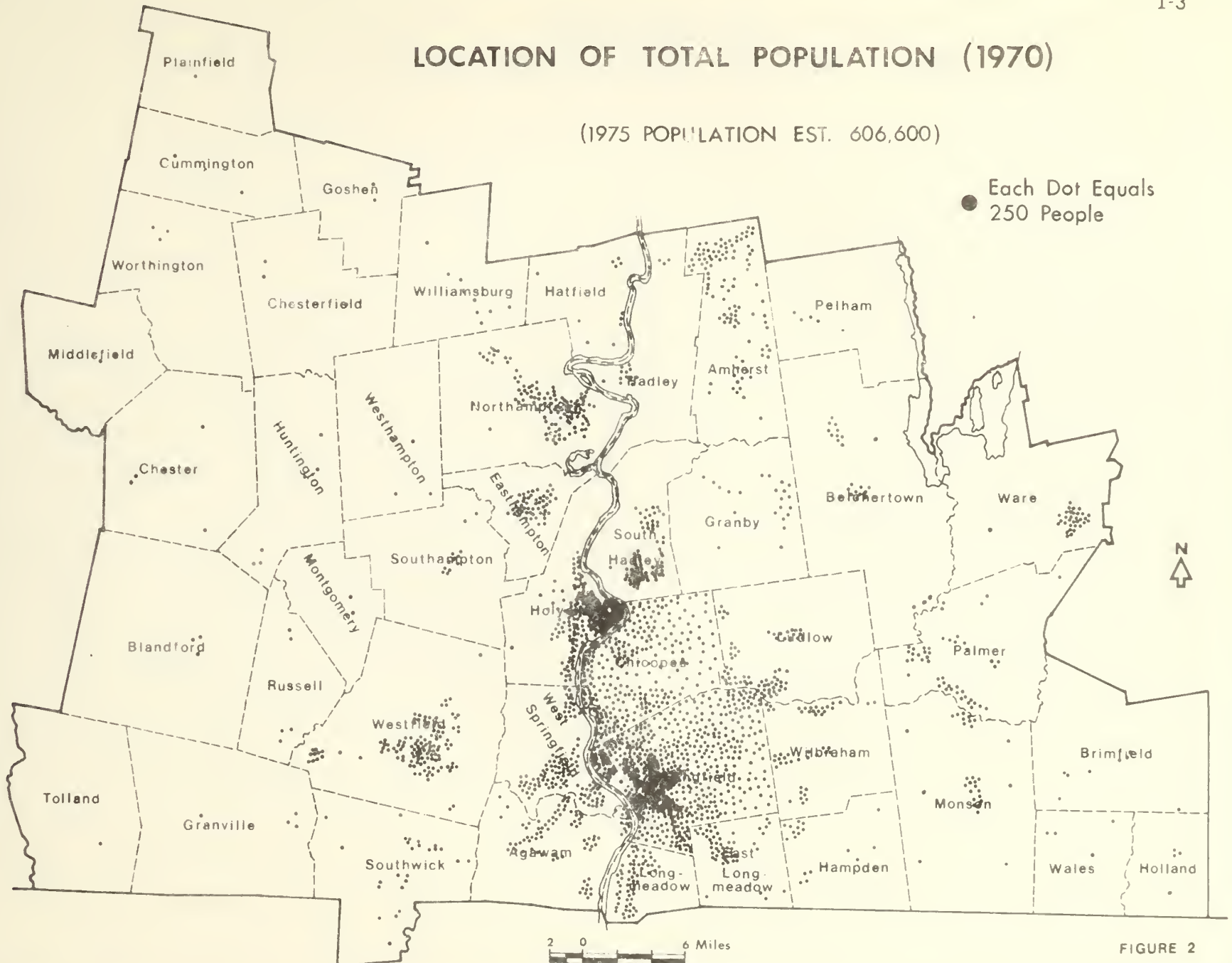
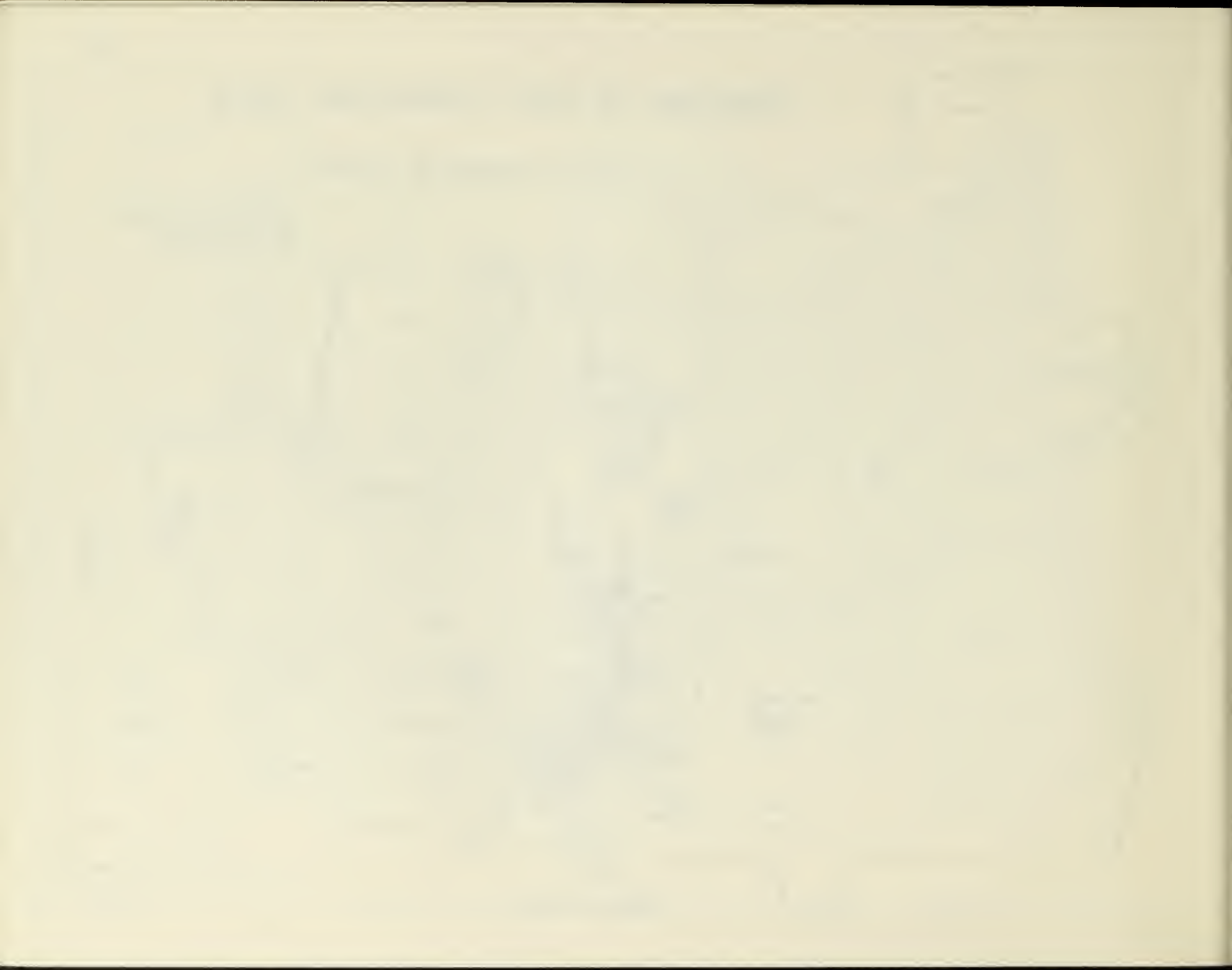


FIGURE 2



# LOCATION OF HOUSEHOLDS WITH NO CAR (1970)

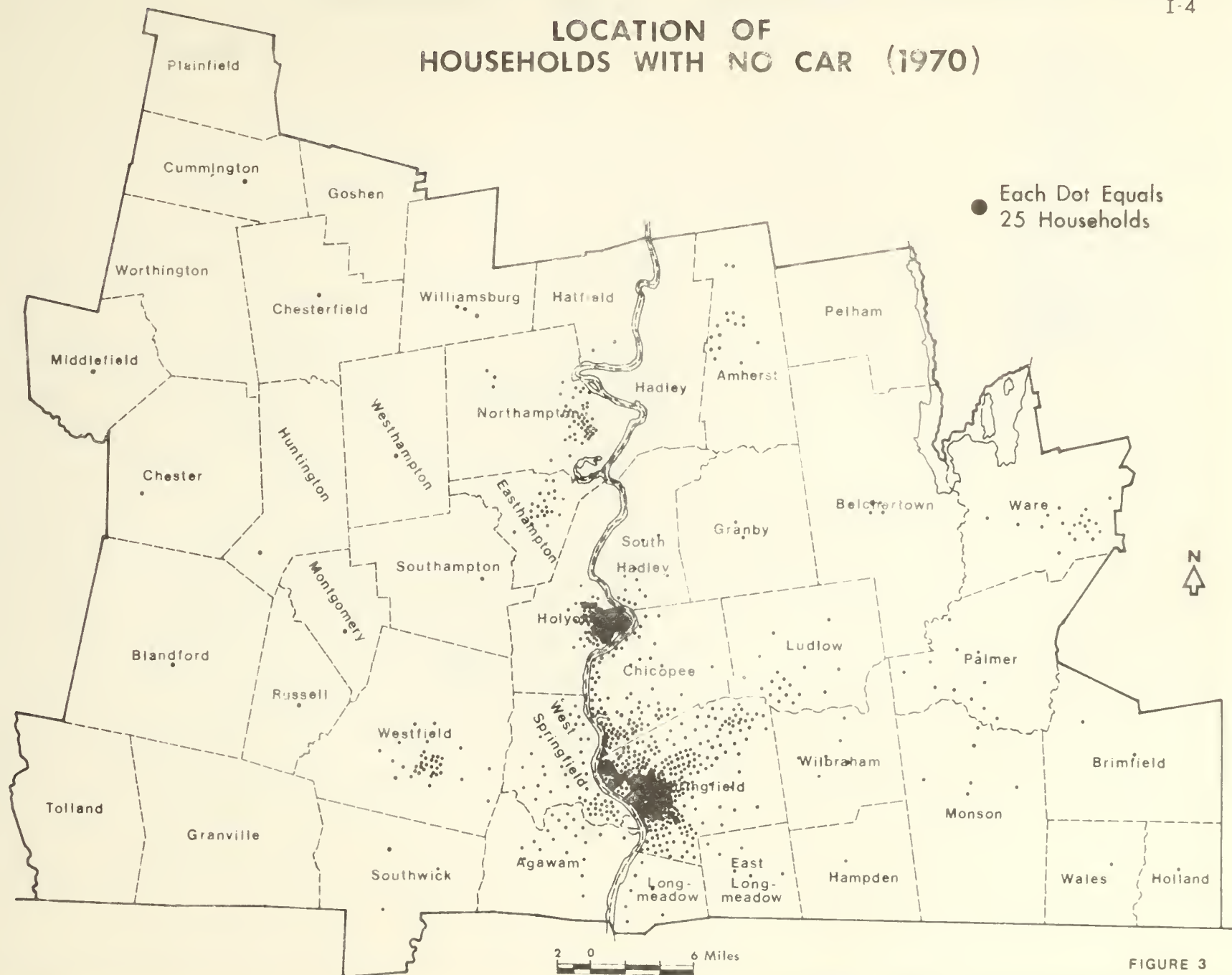
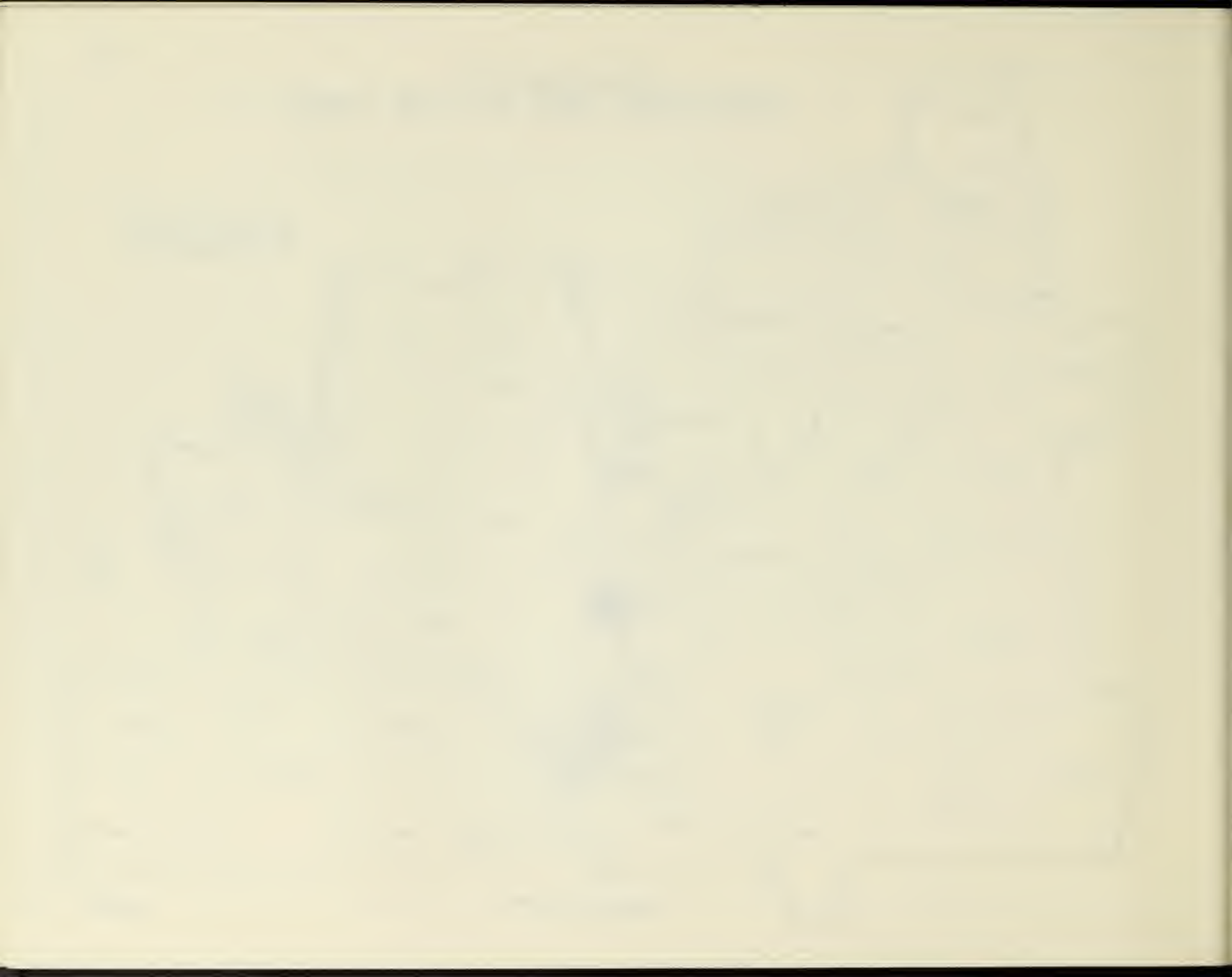


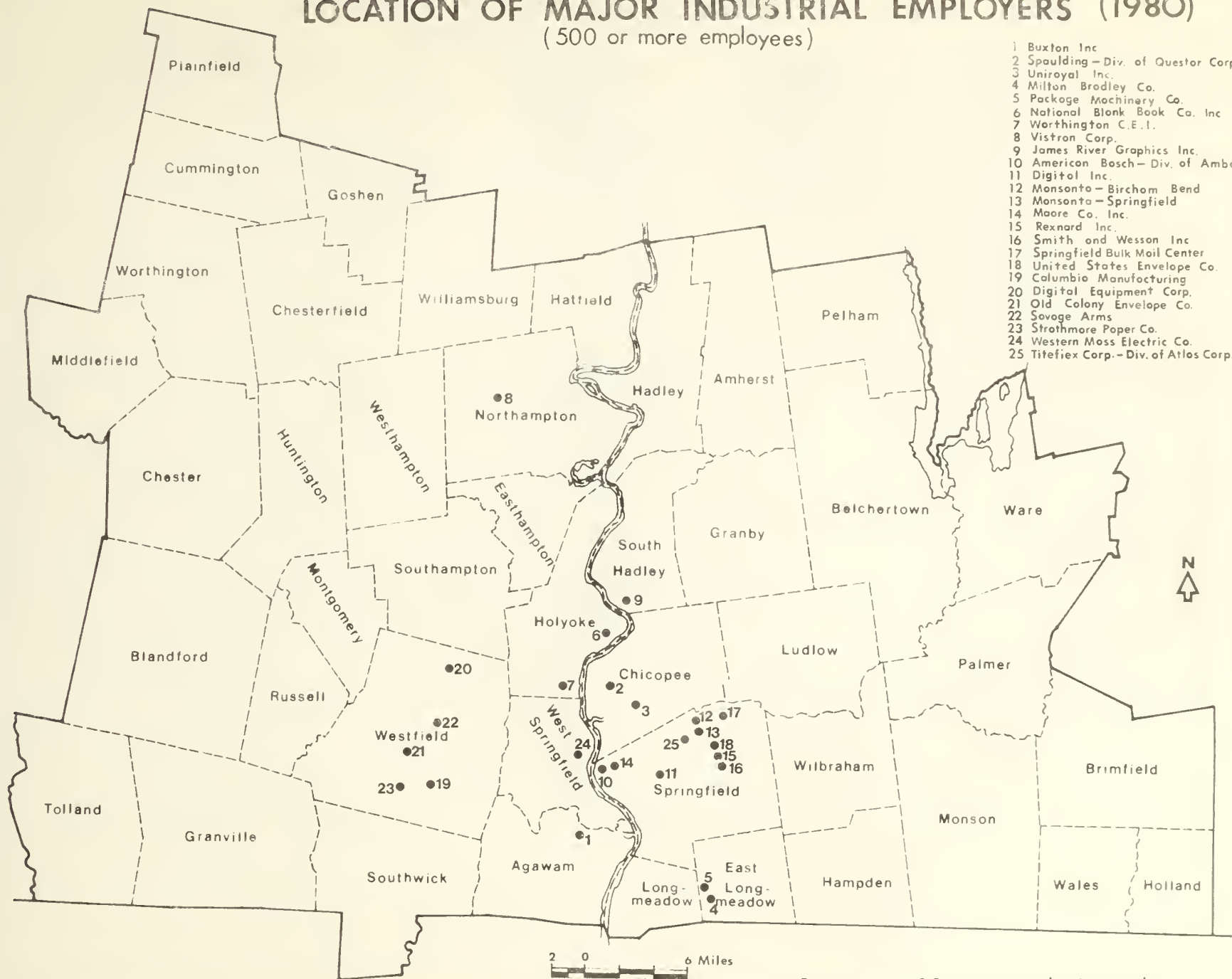
FIGURE 3





# LOCATION OF MAJOR INDUSTRIAL EMPLOYERS (1980)

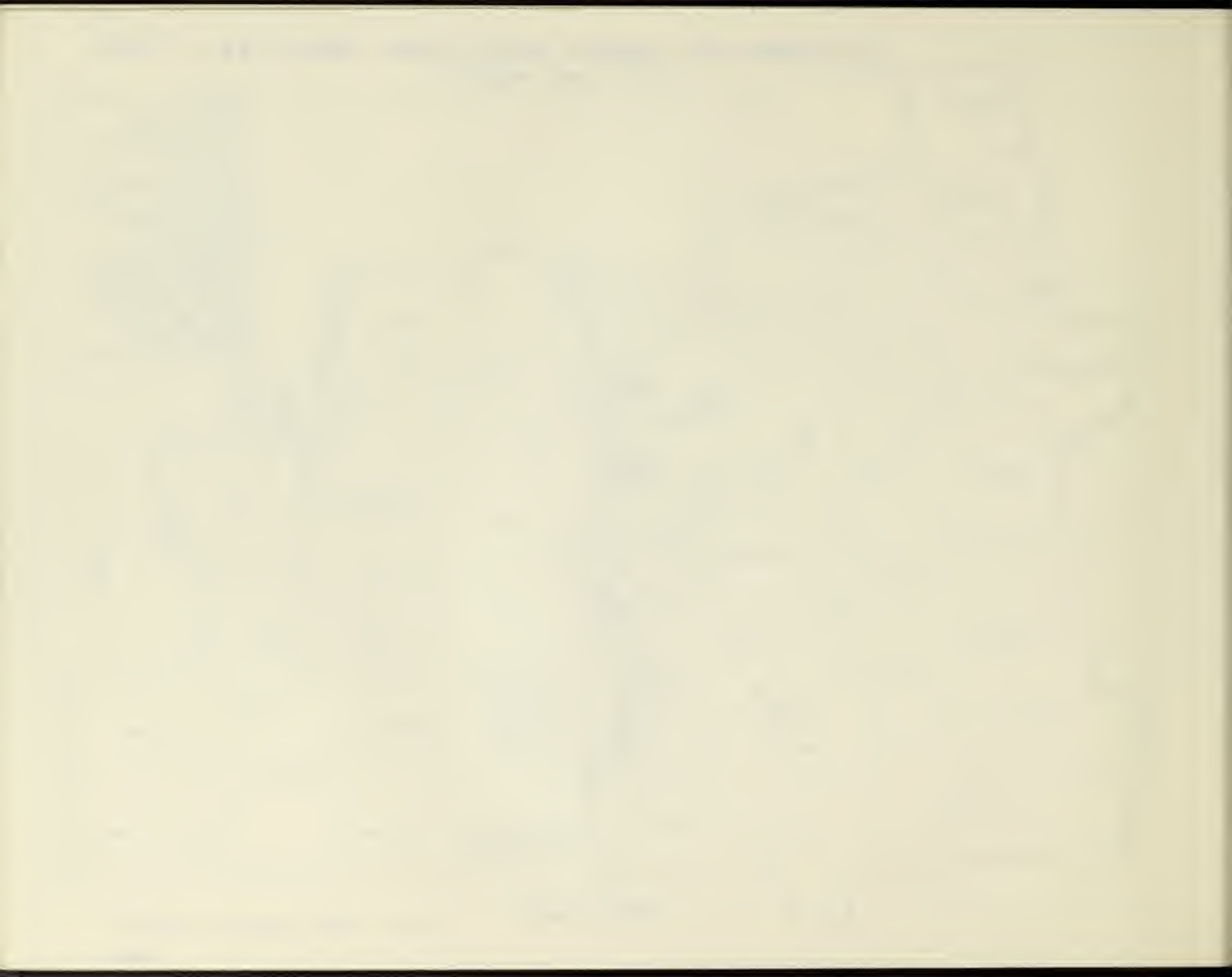
(500 or more employees)



Source: 1980 Masspool Records

FIGURE 4





# LOCATION OF MAJOR COMMERCIAL AREAS (1980)

(10 or more stores or 100,000 square feet)

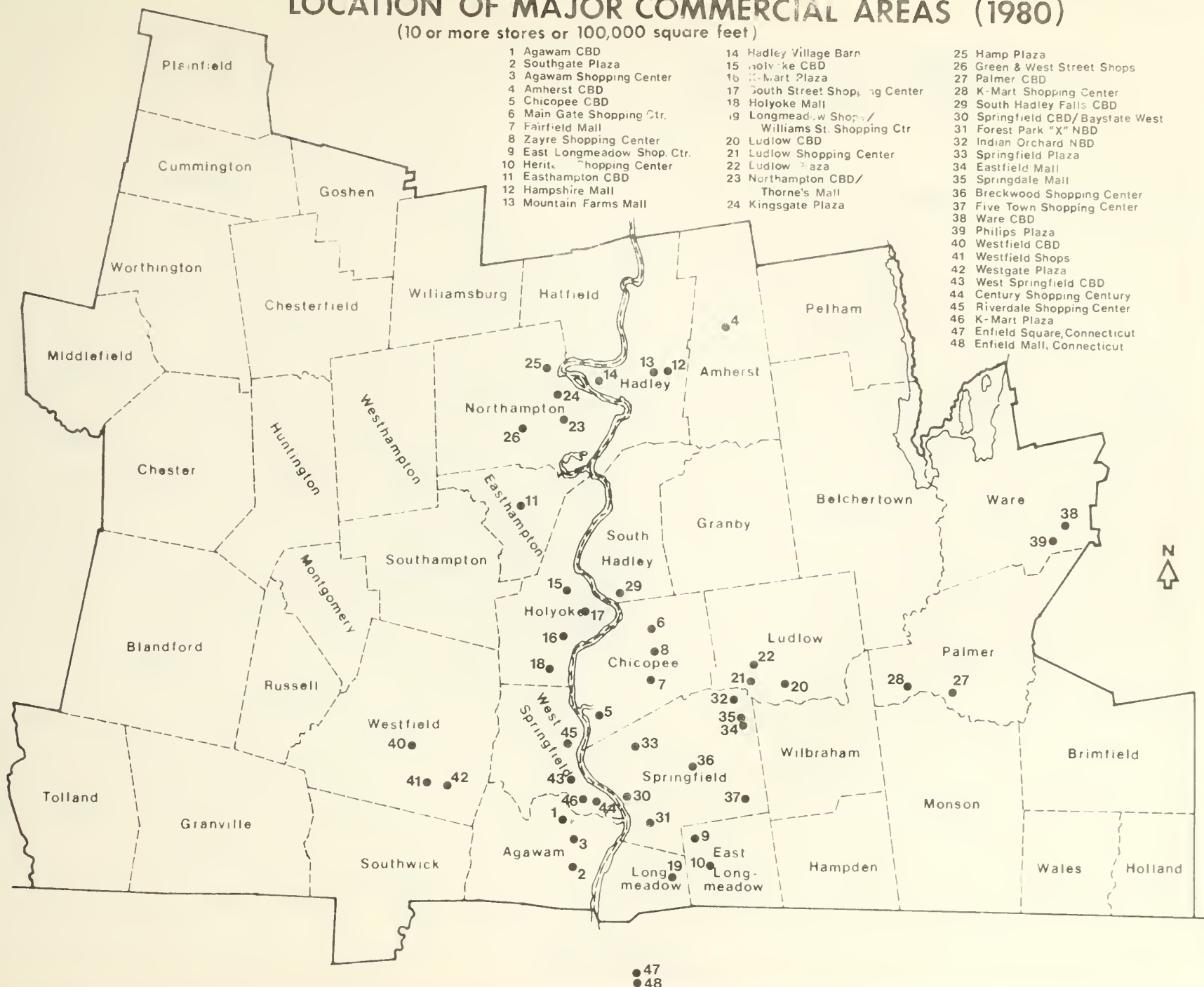
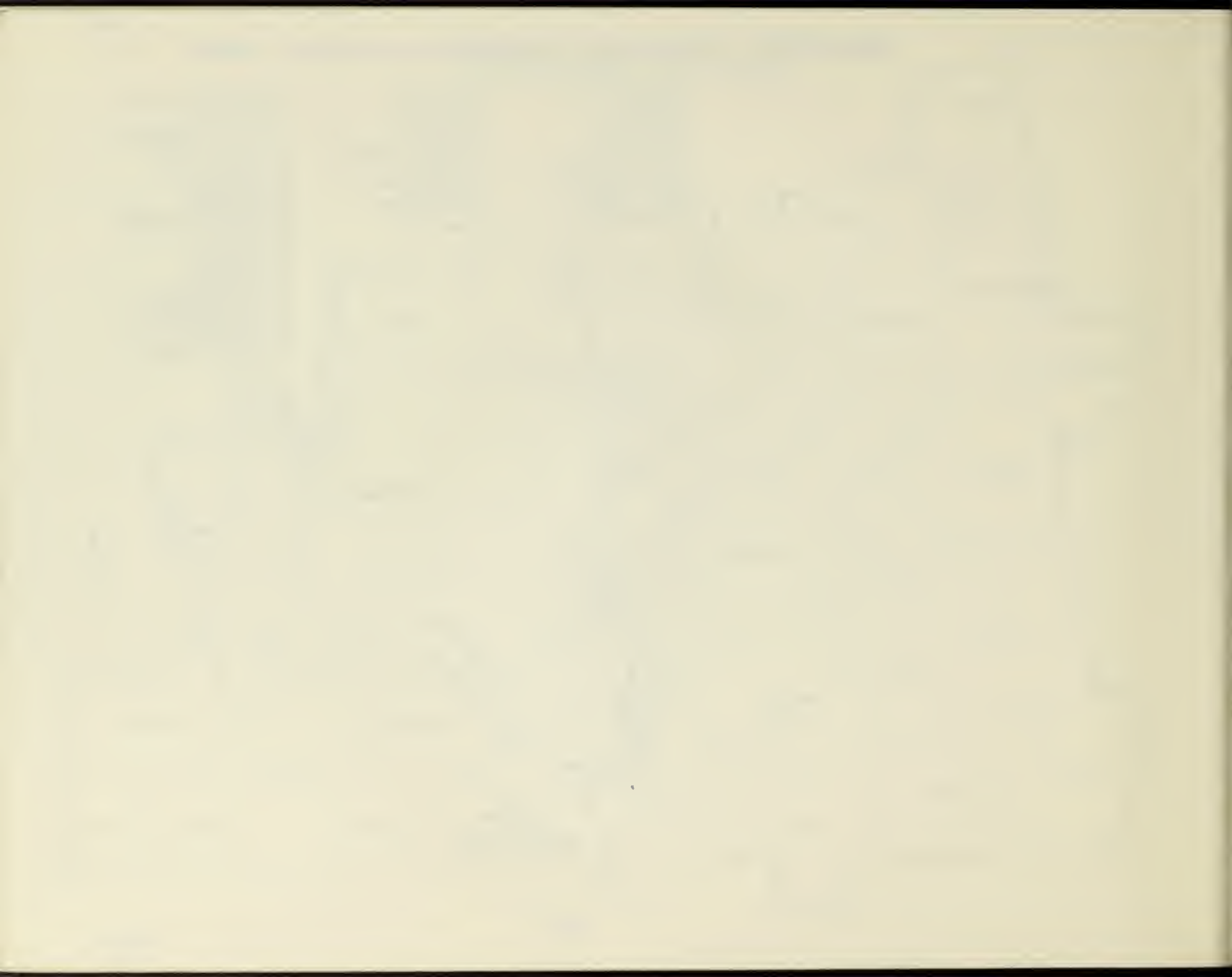


FIGURE 5



# LOCATION OF HOUSING FOR THE ELDERLY (1980)

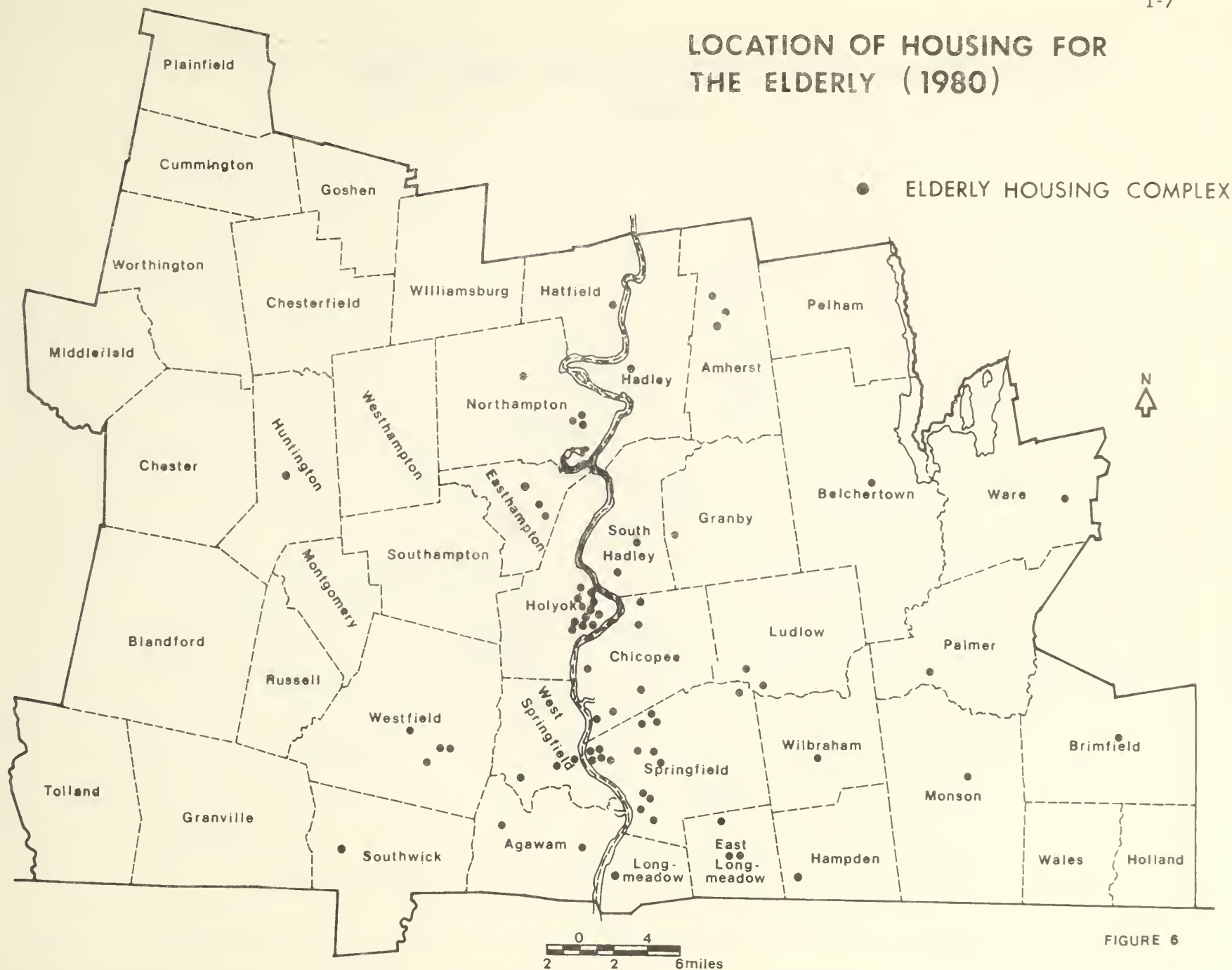
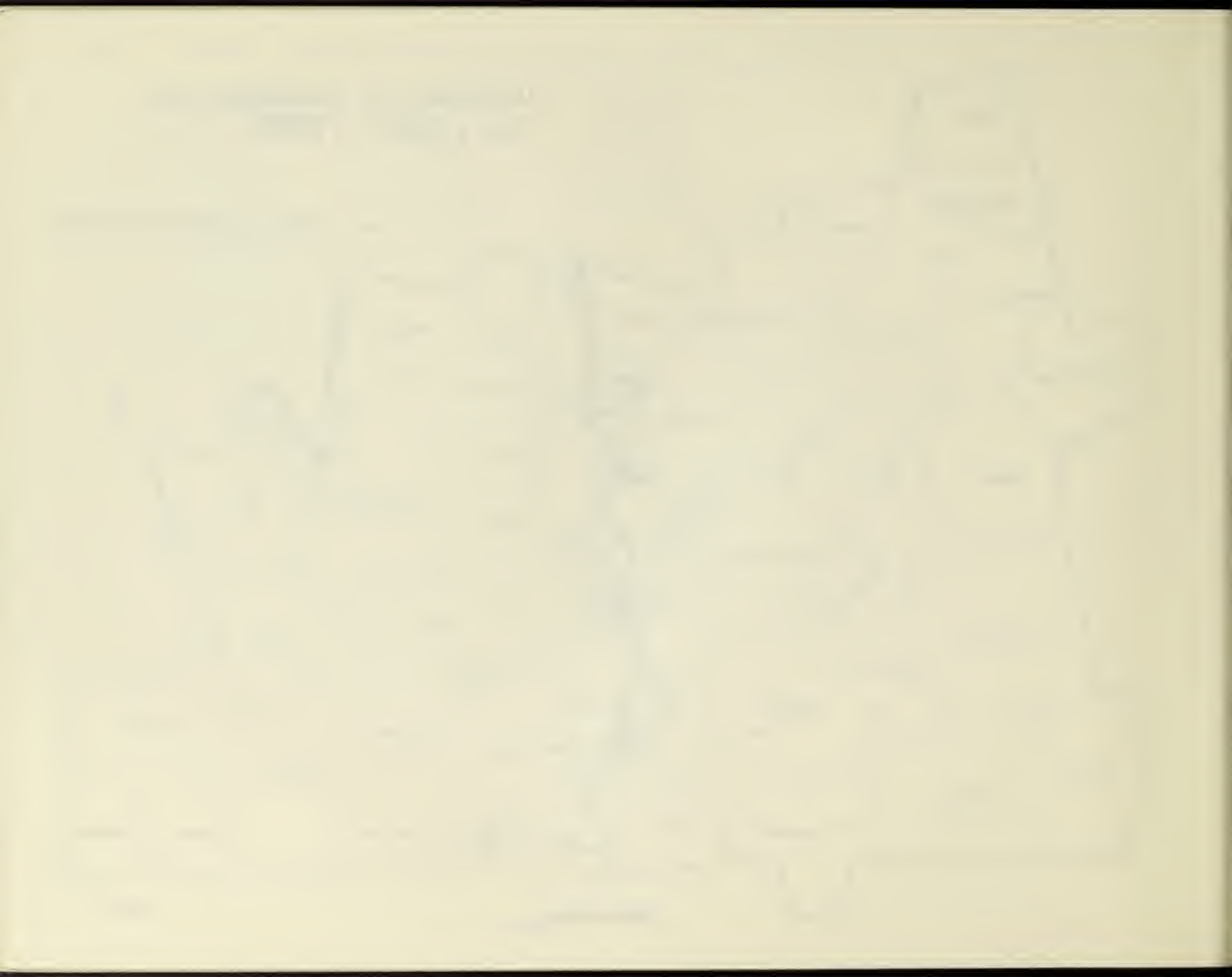


FIGURE 6



# LOCATION OF COLLEGES AND UNIVERSITIES (1980)

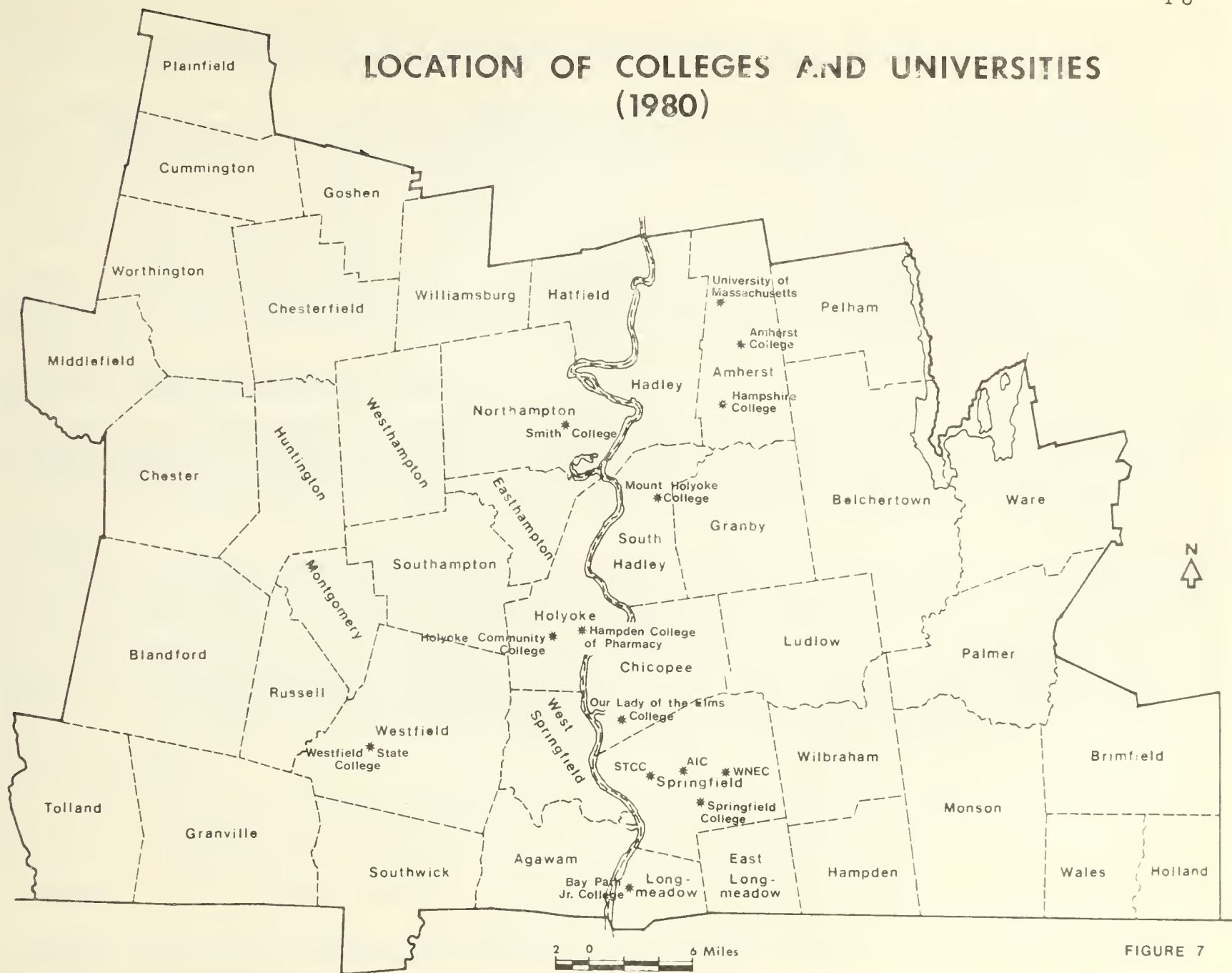
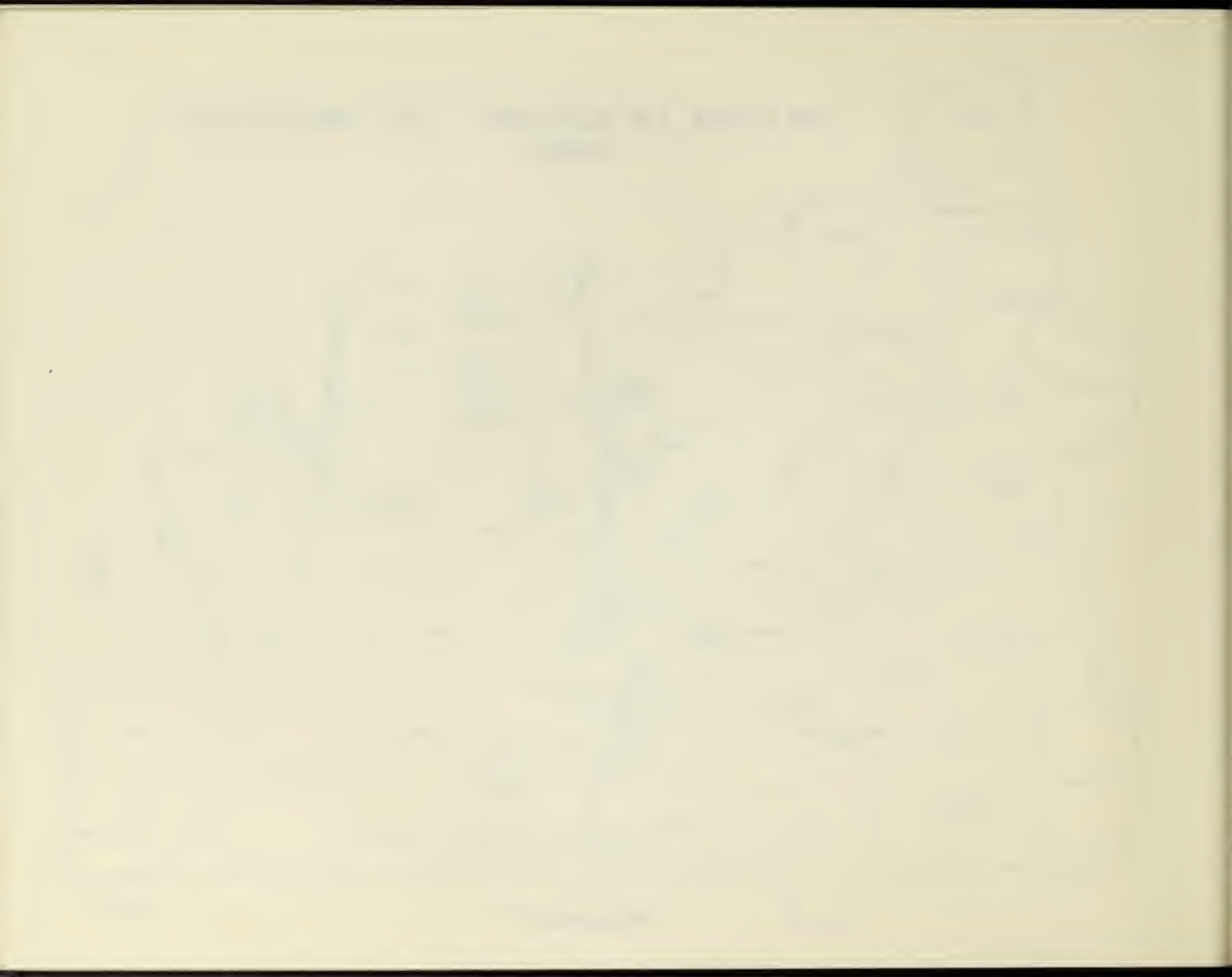


FIGURE 7





highways making longer commuting distances possible; changed industrial processes requiring larger land areas; rising crime rates in urban neighborhoods; and higher incomes permitting realization of greater residential choices.

With the advent of the 1970's, although the Region's suburban and satellite towns have maintained high levels of growth, there has been an increasing trend towards revitalization of the Region's central urban core areas. Evidence of this trend may be found in the increasing financial investment by businesses and industries in urban areas; large-scale efforts to rehabilitate aging urban housing; and the migration of young families to the central cities.

Consequently, such economic factors as skyrocketing construction costs for suburban housing and increasing transportation and energy costs may indeed be reversing the population flow out of the cities.

Figures 1 through 7 illustrate many of the important demographic, geographic, and economic characteristics of the Lower Pioneer Valley. These characteristics, which are very important factors in transportation planning and decision-making, clearly reflect both the multi-nucleated character of the Region and the results of an extensive period of suburbanization.

#### Overview of Regional Transportation System

This section will briefly describe the existing transportation facilities in the Region. This information, coupled with the demographic, geographic, and economic characteristics of the Region, will provide the reader the basic knowledge necessary to adequately understand the various analyses and proposals discussed later in this report. Included are sections dealing with highways, bridges, public transportation, airports, rail, and bikeways.

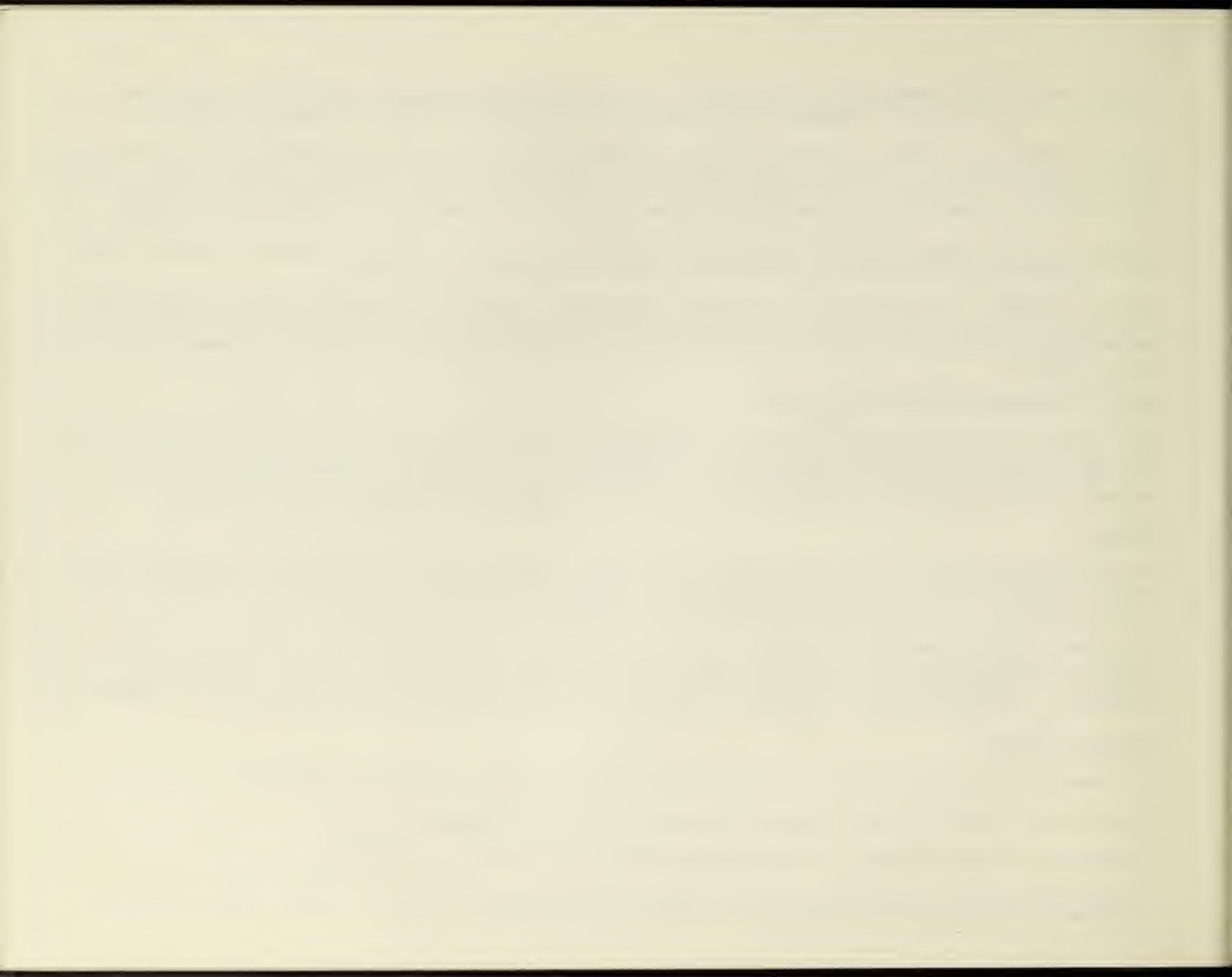
#### Highways

The basic highway network of the Lower Pioneer Valley Region, including interstate highways, U.S. numbered routes, and state routes, is shown in Figure 8. This system, together with other major traffic arteries and collector streets, provides access to all the municipalities in the Region, both urban and rural.

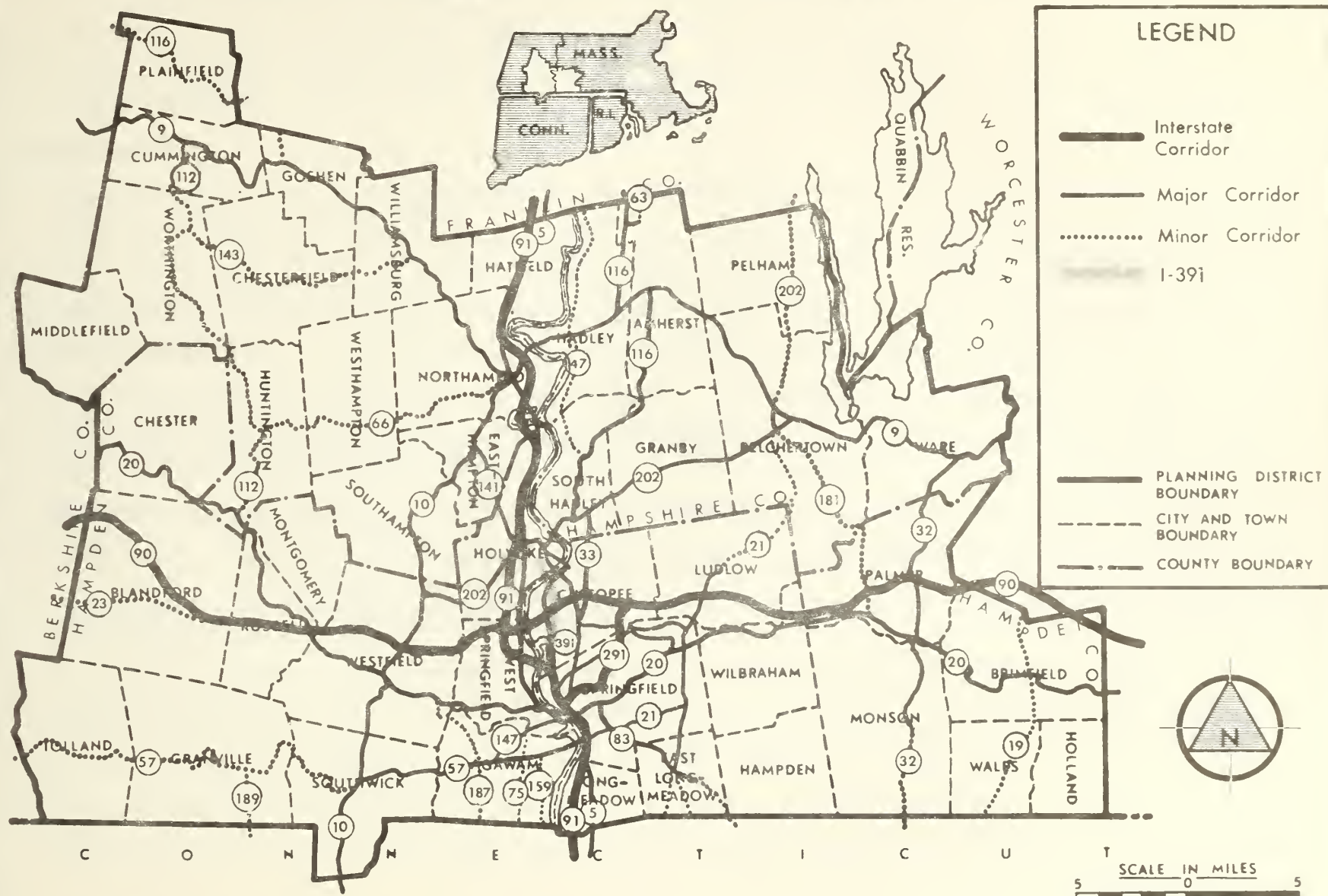
The highway pattern in the Region is radial, as it is in many other metropolitan areas, including Boston and Worcester in Massachusetts. Routes radiate outwards from each of the Region's major centers. This is a consequence of the development of each of these communities as a central place, and is also due in part to topographic influences. The highway network in the Valley is composed of the following major facilities:

#### Interstate Highways

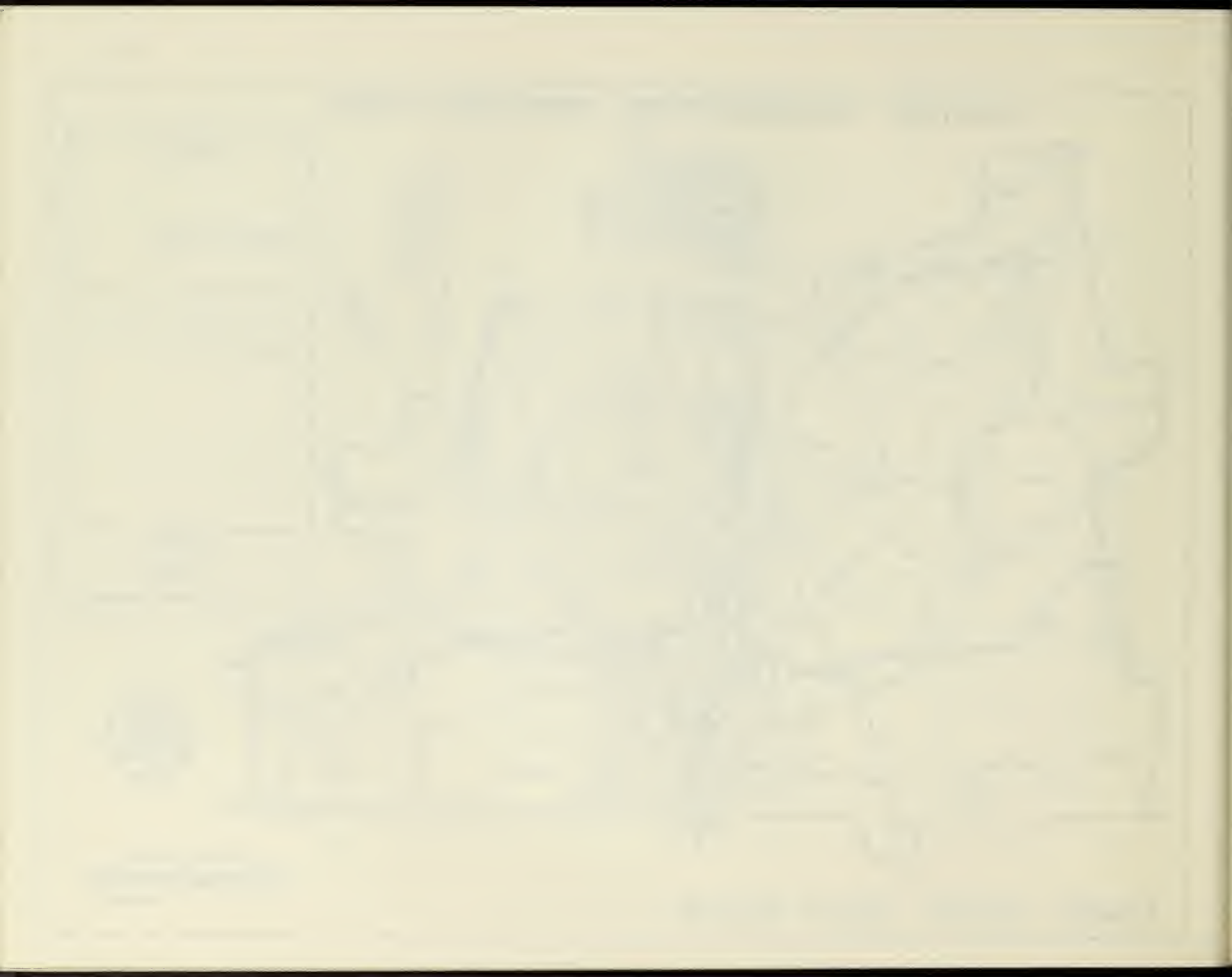
- Interstate Route 90 east and west, the Massachusetts Turnpike, passing just north of the City of Springfield.
- Interstate 91 north and south, following the basic alignment of the Connecticut River.
- Interstate 291 east and west, a spur route connecting I-90 with I-91 via the City of Springfield.
- Proposed Interstate 391 north and south, a partially constructed spur which will eventually connect Holyoke, Chicopee, and Springfield via the east bank of the Connecticut River.



# HIGHWAY TRANSPORTATION CORRIDORS • (1980)



LOWER PIONEER VALLEY REGION



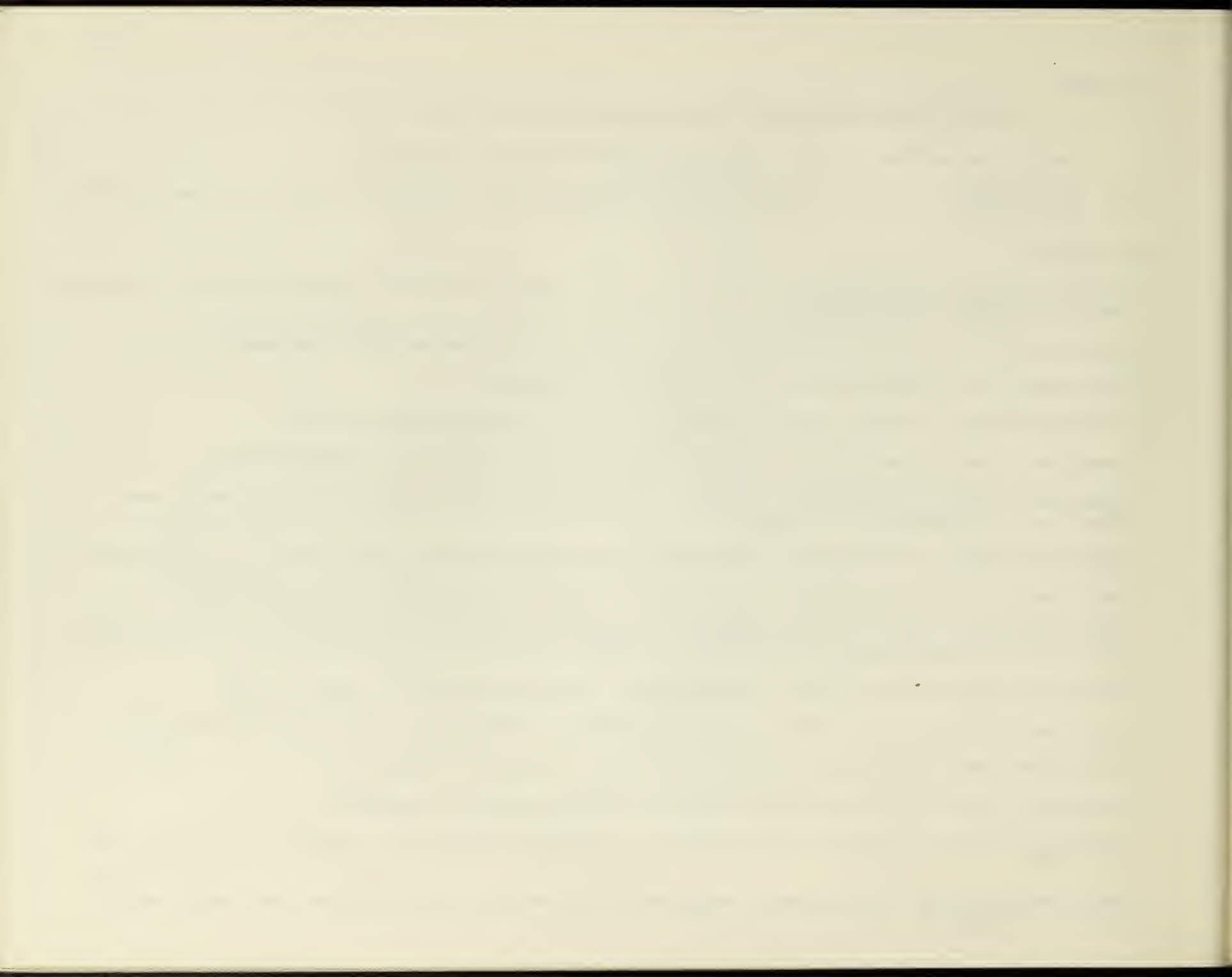


U.S. Routes

- U.S. Route 5 north and south, essentially paralleling the Connecticut River.
- U.S. Route 20 east and west, connecting Boston, Springfield, Pittsfield, and Albany.
- U.S. Route 202 north and south, entering the Region in the north-east and crossing the Massachusetts-Connecticut Line in Southwick.

State Routes

- Massachusetts Route 9 east and west, crossing the northern portion of the Region and connecting Boston, Worcester, Amherst, Northampton, and Pittsfield.
- Massachusetts Route 10 north and south, serving intermediate points from Southwick to Northampton.
- Massachusetts Route 19 north and south, serving Wales and Brimfield.
- Massachusetts Route 21 north and south, connecting Springfield with Belchertown and Ludlow.
- Massachusetts Route 23 east and west, connecting Blandford with municipalities in Berkshire County.
- Massachusetts Route 32 north and south, serving the communities of Monson, Palmer and Ware, accessing these communities to the Massachusetts Turnpike.
- Massachusetts Route 33 north and south, connecting Chicopee Falls with South Hadley via Westover Air Force Base.
- Massachusetts Route 47 north and south, interconnecting South Hadley and Hadley with Franklin County.
- Massachusetts Route 57 east and west, serving the southwestern portion of the region and connecting Springfield with Agawam, Southwick, Granville, and Tolland.
- Massachusetts Route 63 north and south, connecting North Amherst with points in Franklin County.
- Massachusetts Route 66 east and west, serving the communities of Northampton, Westhampton, and Huntington.
- Massachusetts Route 75 north and south, connecting Agawam with points in Connecticut.
- Massachusetts Route 83 north and south, connecting Springfield with East Longmeadow.
- Massachusetts Route 112 north and south, serving the northwestern communities of Cummington, Worthington, and Huntington.
- Massachusetts Route 116 north and south, connecting Springfield with Chicopee, Holyoke, South Hadley, Hadley, Amherst and Plainfield.



- Massachusetts Route 141 north and south, providing direct access between Easthampton and Holyoke.
- Massachusetts Route 143 east and west, serving the communities of Worthington, Chesterfield and Williamsburg.
- Massachusetts Route 147 north and south, connecting Springfield with Agawam.
- Massachusetts Route 159 north and south, connecting Agawam with points in Connecticut.
- Massachusetts Route 181 north and south, serving the communities of Belchertown and Palmer.
- Massachusetts Route 187 north and south, serving Westfield, Agawam, and Connecticut communities.
- Massachusetts Route 189 north and south, originating in Connecticut and intersecting Route 57 in Granville.

These major highway facilities have served to integrate the various communities of the Region into one multi-nucleated urban complex.

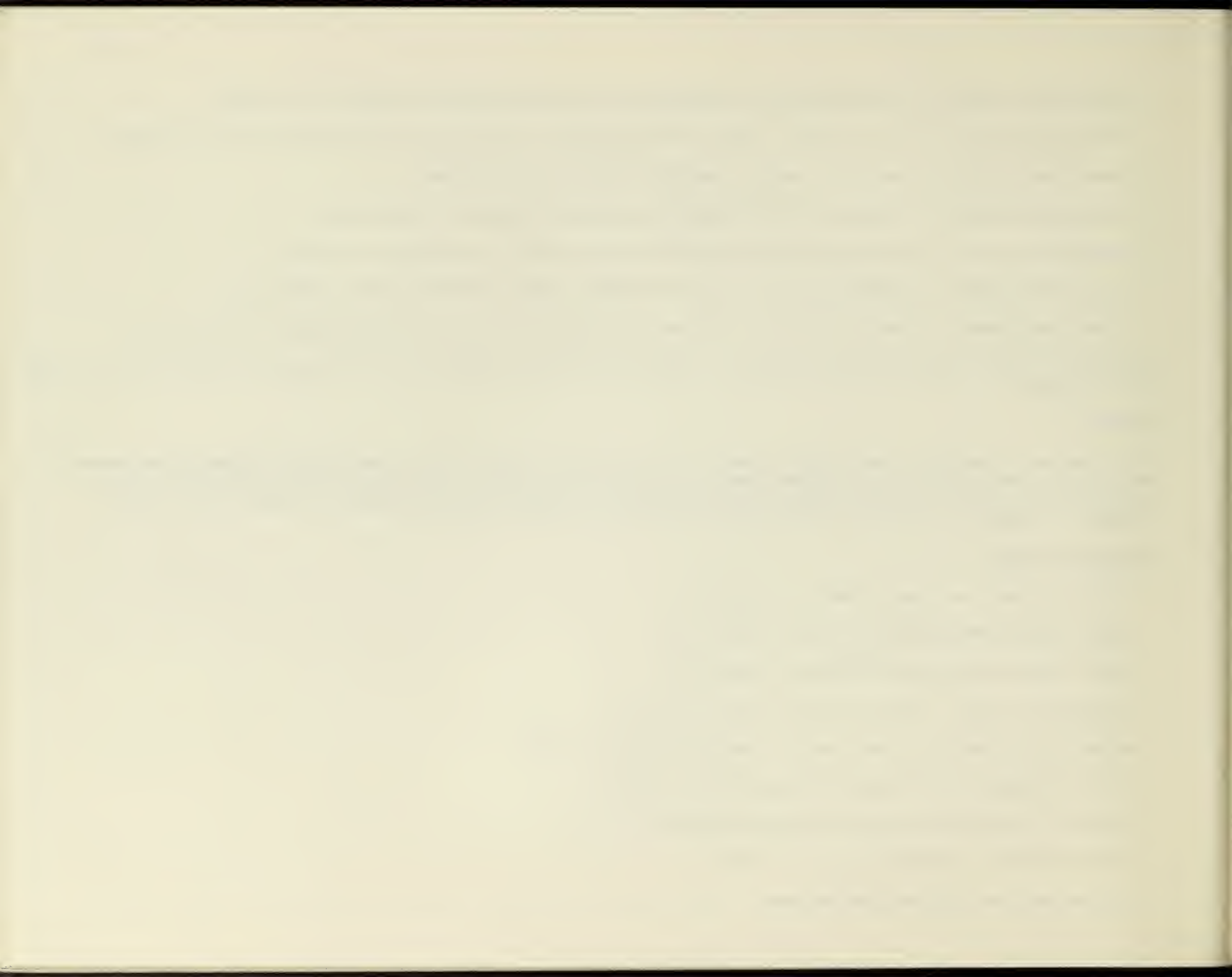
#### Bridges

Any inventory of existing transportation facilities in the Lower Pioneer Valley Region must include a comprehensive tabulation of the major bridge crossings over the Connecticut, Westfield, and Chicopee Rivers. These crossings remain focal points for regional transportation problems, as many streets and highways converge into a limited number of crossings. Principle river crossings in the Region are listed below:

#### Connecticut River:

- Coolidge Bridge (Northampton-Hadley) (Route 9)
- Mueller Bridge (Holyoke-South Hadley) (Route 202)
- County Bridge (Holyoke-South Hadley) (Route 116)
- Willimansett Bridge (Holyoke-Chicopee) (Route 116, 141)
- Massachusetts Turnpike Bridge (West Springfield-Chicopee) (I-90)
- North End Bridge (West Springfield-Springfield) (Route 20)
- Memorial Bridge (West Springfield-Springfield) (Route 147)
- South End Bridge (Agawam-Springfield) (Route 5)
- I-91 Bridge (West Springfield-Chicopee)





Chicopee River:

- Davitt Memorial Bridge (Chicopee) (Route 116)
- Deady Memorial Bridge (Chicopee) (Routes 33, 141)
- George D. Robinson Bridge (Chicopee) (I-291)
- West Street Bridge (Springfield-Ludlow)
- Putts (Center Street) Bridge (Springfield-Ludlow) (Route 21)
- Greene Towne Bridge (Wilbraham-Ludlow)
- Red Bridge (Wilbraham-Ludlow)

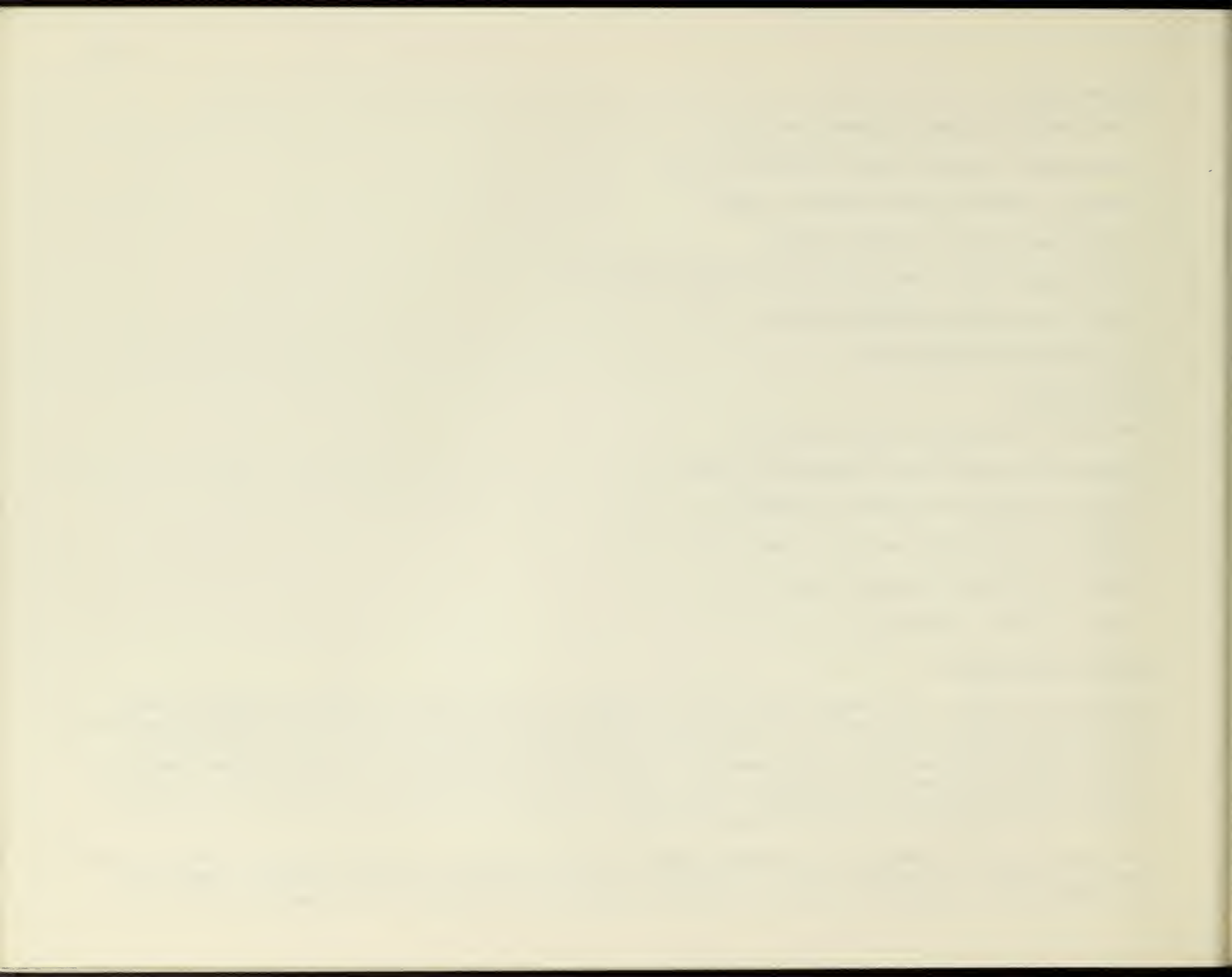
Westfield River:

- Westfield River Bridge (Agawam) (Route 5)
- Agawam Bridge (Agawam-West Springfield) (Route 147)
- Mittineague Bridge (Agawam-West Springfield)
- Westfield River Bridge (Westfield) (Route 20)
- Great River Bridge (Westfield) (Route 10)
- Route I-91 Bridge (Westfield)

Public Transportation

Public transportation in the Lower Pioneer Valley is provided by the Pioneer Valley Transit Authority (PVTA). Essentially, the PVTA is an administrative/regulatory agency providing financial resources to the existing private bus carriers through resources to the existing private bus carriers through the receipt and disbursement of various federal and state transit assistance funds. The PVTA also functions as a regulatory agency, monitoring transit services and providing information and assistance to the private operators and PVTA member communities. By providing these services, the PVTA has in large measure stabilized and improved the quality of the Region's transit services from what existed in the early 1970's.

Currently, the PVTA is comprised of 23 member communities (see Figure 9). The transit district contains the urban core of the Region, Springfield, Holyoke, and Chicopee, as well as adjacent suburbs and satellite communities. The district has a population of over 500,000 people, approximately 88 percent of the total population of the



# Pioneer Valley Transit Authority

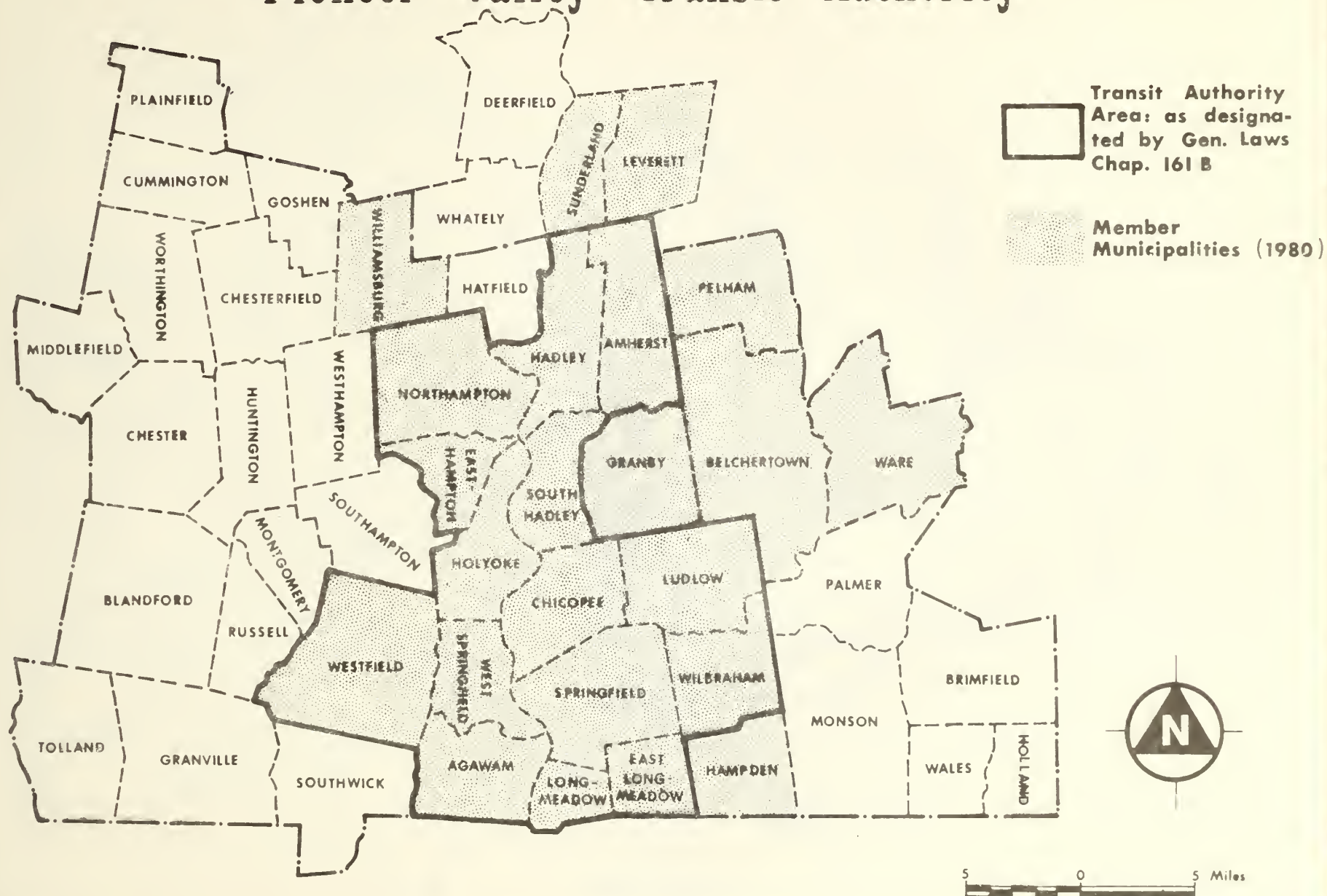


FIGURE 9



# Lower Pioneer Valley Region (1980) FIXED TRANSIT ROUTES

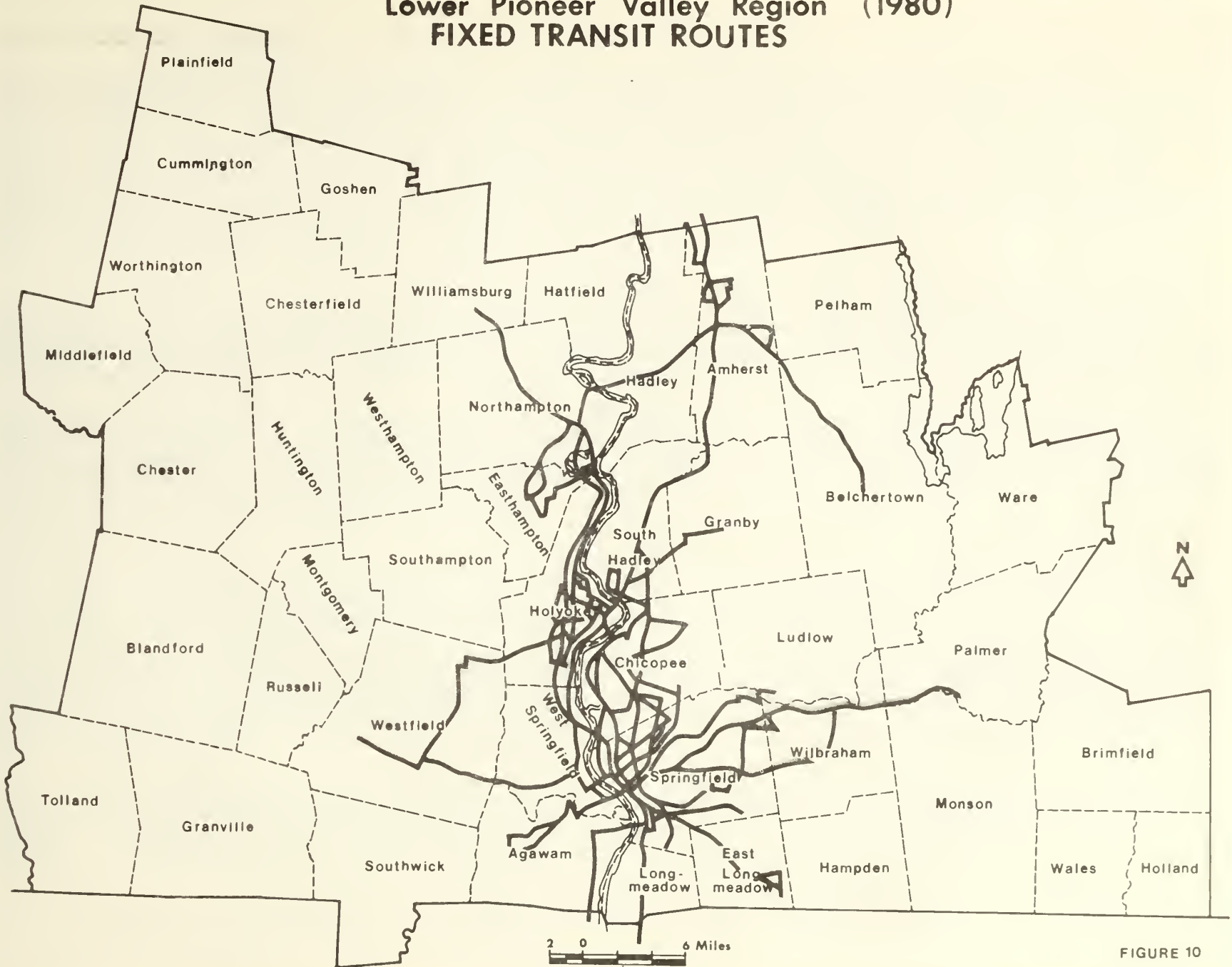


FIGURE 10







## Lower Pioneer Valley Region.

There are currently seven transit carriers operating in the Region; five profit-motivated and two non-profit. The five profit-motivated carriers operating in the PVRTA district include the Springfield Street Railway Company (SSRC), Holyoke Street Railway Company (HSRC), Longueil Transportation Company, Western Massachusetts Bus Lines (WMBL), and Peter Pan Bus Lines, Inc. (Peter Pan is essentially an intercity bus carrier which operates several express transit routes serving communities within the Region). The non-profit operations are the University of Massachusetts Transit Service and Five Colleges Transportation, Inc. The PVRTA has executed contracts with six of the area bus carriers. In addition, the seventh, Five Colleges Transportation, has entered into a contract with the PVRTA whereby Western Mass. Bus Lines now provides transit services to a major segment of the Five College network in tandem with regular WMBL service between Northampton and Amherst.

Of these area carriers, the Springfield Street Railway Company carries the largest number of passengers. All of the carriers have experienced increases in ridership since 1973, but rapidly increasing operating costs have precluded self-supporting operations. Prior to the establishment of the PVRTA, school charter revenues were used extensively by carriers to offset losses from fixed route transit services. However, the present financing of transit by the PVRTA has eliminated the need for continuing this pattern of "cross-subsidization."

Fixed route transit service is currently provided on 53 routes, primarily between the hours of 6:00 A.M. and 6:00 P.M., Monday through Saturday. The present schedules generally provide for 15-30 minute headways in the peak travel periods and 30-60 minute headways in the mid-day (heading is defined as the time interval between two buses traveling in the same direction on the same route). In certain instances, shorter or longer headways are utilized. The regional transit system is depicted in Figure 10.

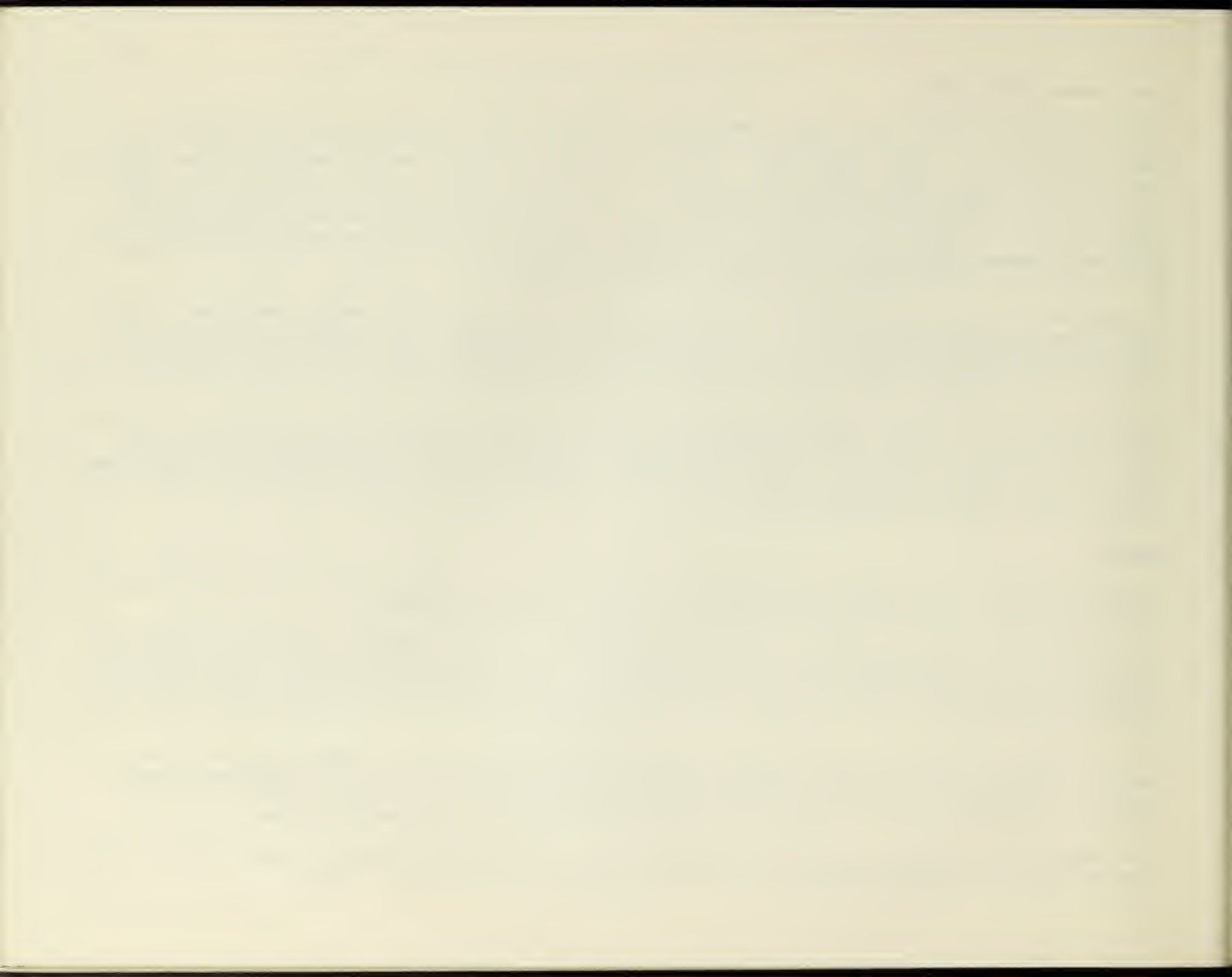
## Airports

The Lower Pioneer Valley is generally well served by air transportation facilities located within and adjacent to the Region. Figure 11 illustrates the locations of the airports serving the Region.

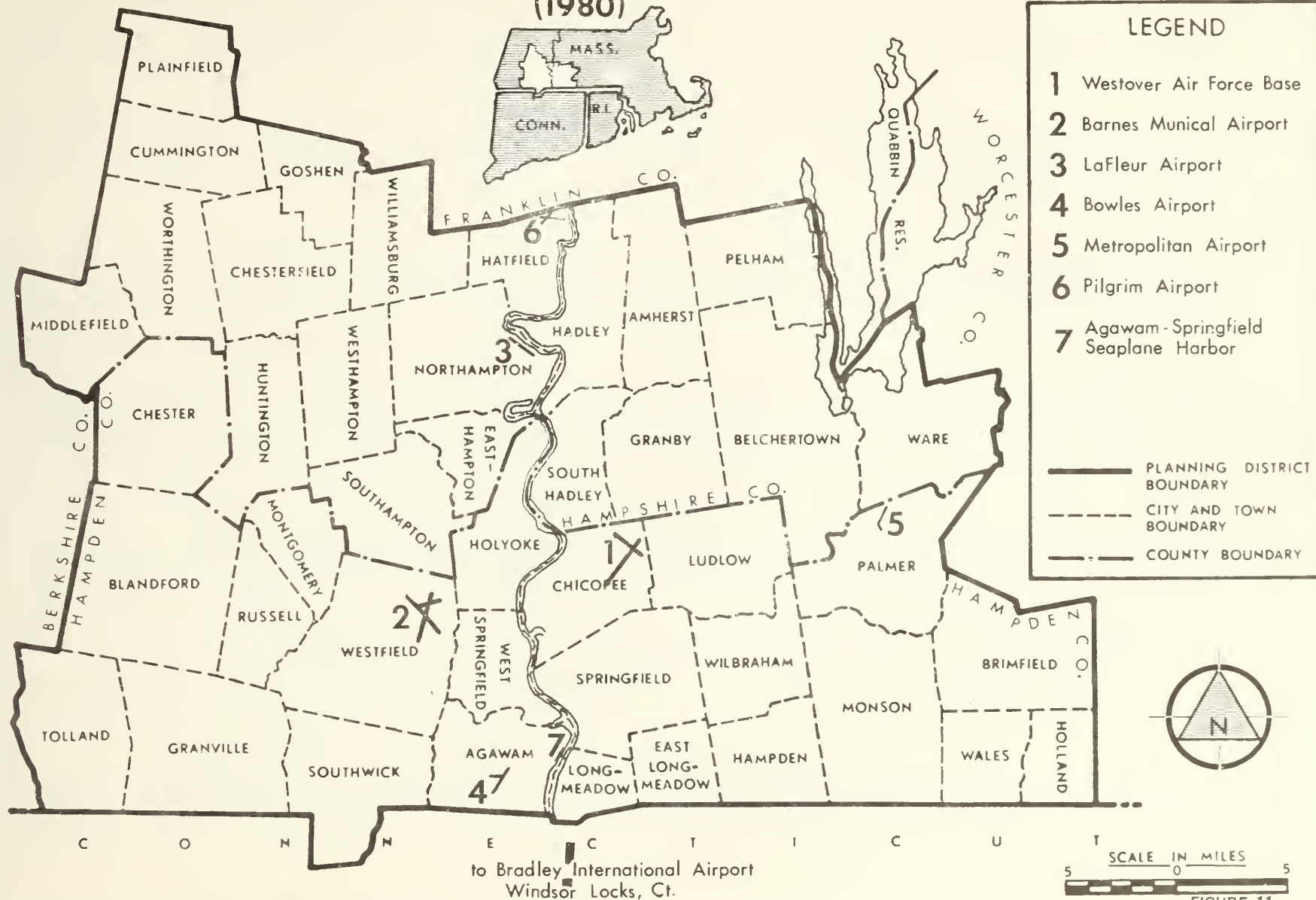
Major intercity air passenger service is provided from Bradley International Airport, located twelve miles southwest of the City of Springfield in Windsor Locks, Connecticut. It is classified by the Civil Aeronautics Board as a medium hub airport serving over one million people living in Connecticut and Western Massachusetts. Available survey data indicate that 23 percent of air travellers utilizing the facility have the Lower Pioneer Valley Region as one of their trip ends.

The facility is served by six major commercial airlines, two commuter airlines and several supplemental air carriers. Domestic passenger flights (approximately 260 arrivals and departures per day) constitute the major portion of airline operations, although domestic/international charter and air freight/cargo services are also provided. In addition, the airport has facilities for general aviation and military operations.

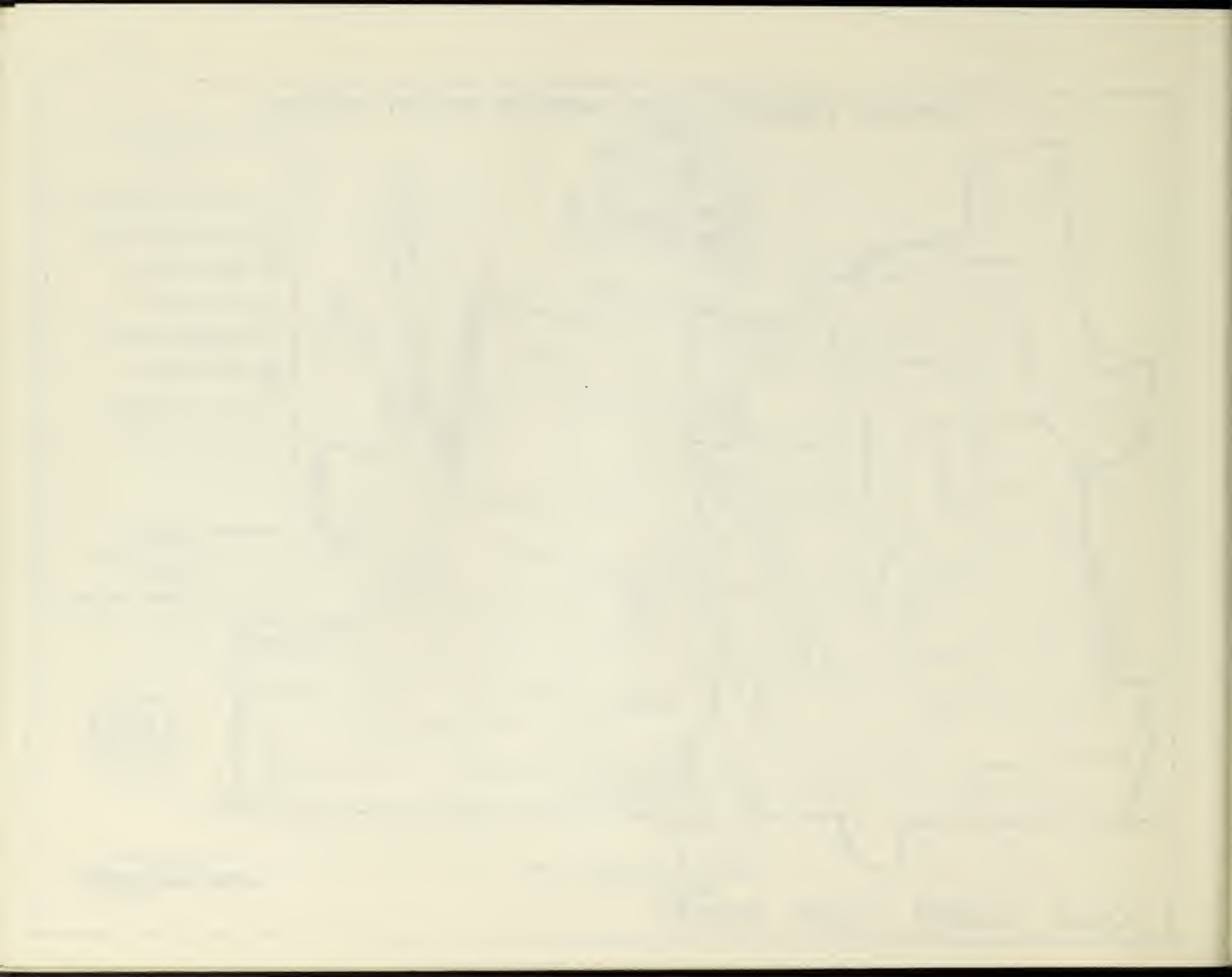
On an annual basis, aircraft operations at Bradley include an estimated 70,000 commercial flights; 58,000 general aviation flights; 9,000 military flights; 2.5 million passengers; and 45,000 tons of cargo.



# AIRPORTS SERVING LOWER PIONEER VALLEY REGION (1980)



LOWER PIONEER VALLEY REGION



Within the Lower Pioneer Valley Region there are a total of six public and private airports and one seaplane harbor. Westover Air Force Base, located in Chicopee, is by far the largest of these airport facilities. It includes nearly 4,800 acres of land, eleven major buildings, and an 11,600 foot runway, the longest in Massachusetts. Historically, Westover has been an exclusively military facility but deactivation proceedings initiated by the U.S. Department of Defense in the early 1970's have led to the release of nearly half of its land area to civilian uses. Plans now call for the phased development of Westover into an industrial airpark including joint military/civilian aviation facilities coupled with extensive industrial development.

The second largest airport in the Region is Westfield's Barnes Municipal Airport. This public facility is the third busiest airport in Massachusetts, serving primarily general aviation activity as well as an Air National Guard Unit. In addition, within the last several years a small commercial air carrier service has been instituted to serve air traffic demands between the greater Springfield area and the Cape Cod area during spring and summer months.

The remaining four airports, LaFleur, Bowles, Metropolitan, and Pilgrim, and the Agawam-Springfield Seaplane Harbor are much smaller and contain much less sophisticated facilities. Each of these facilities is privately owned and operated, and serves primarily general aviation uses, both business and recreational.

#### Passenger/Freight Rail Facilities

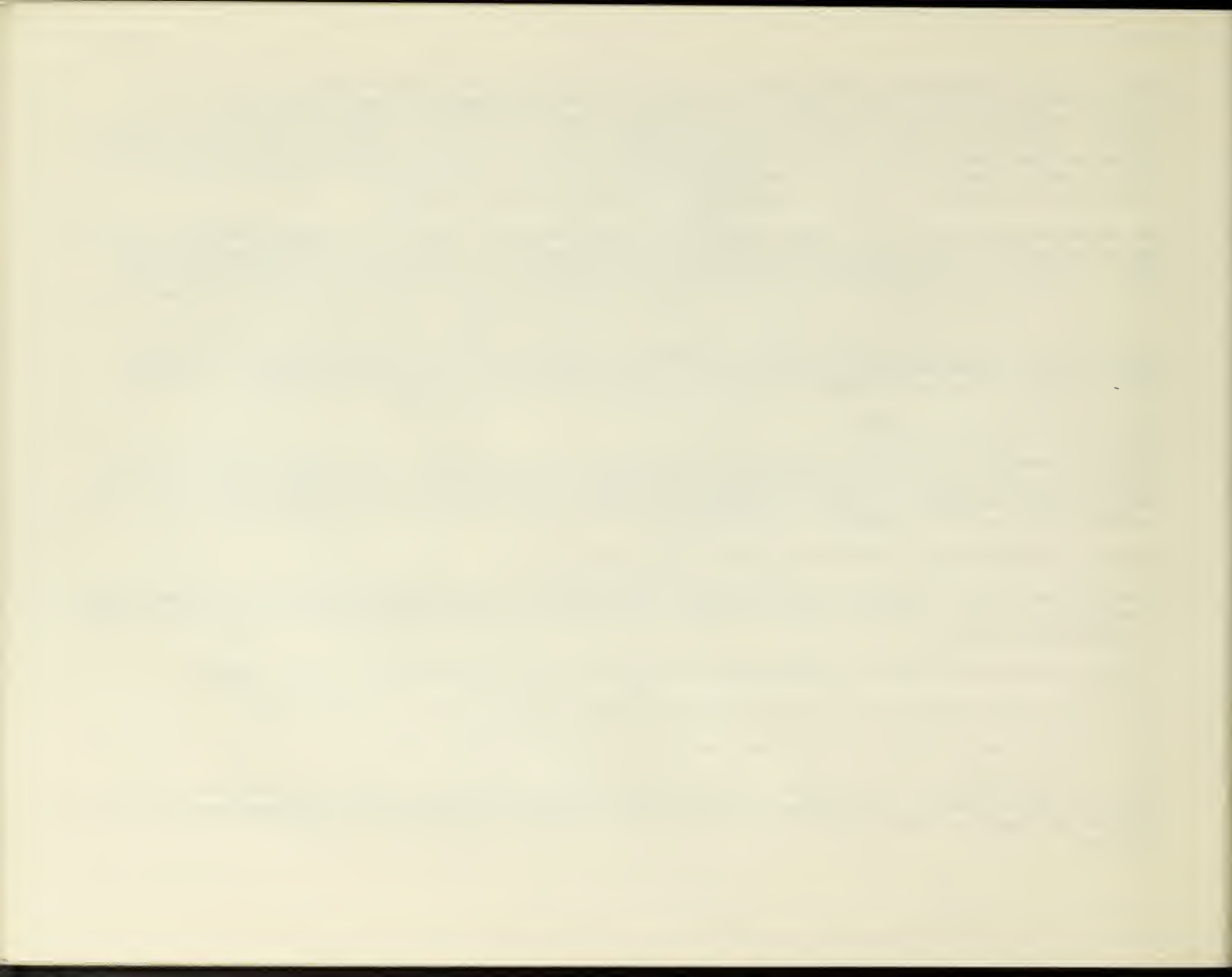
Intercity passenger rail service is provided to the Region on a limited basis by the National Railroad Passenger Corporation (AMTRAK), the quasipublic corporation responsible for the operation of intercity passenger rail services throughout the nation. Figure 17 illustrates the regional rail system serving the Lower Pioneer Valley which includes freight as well as passenger rail facilities.

Currently, AMTRAK service in the Region consists of the following:

- One trip per day per direction serving Springfield and Northampton connecting these communities with Washington D.C. and Montreal, Canada. These trips utilize ConRail facilities from the Connecticut border to Springfield northward through the Region.
- One trip per day per direction serving Boston and Chicago via Springfield utilizing ConRail trackage.
- Ten trips per day leaving Springfield for Hartford, New Haven, New York City, and points south.
- Nine trips per day serving Springfield from New York City and other points south.

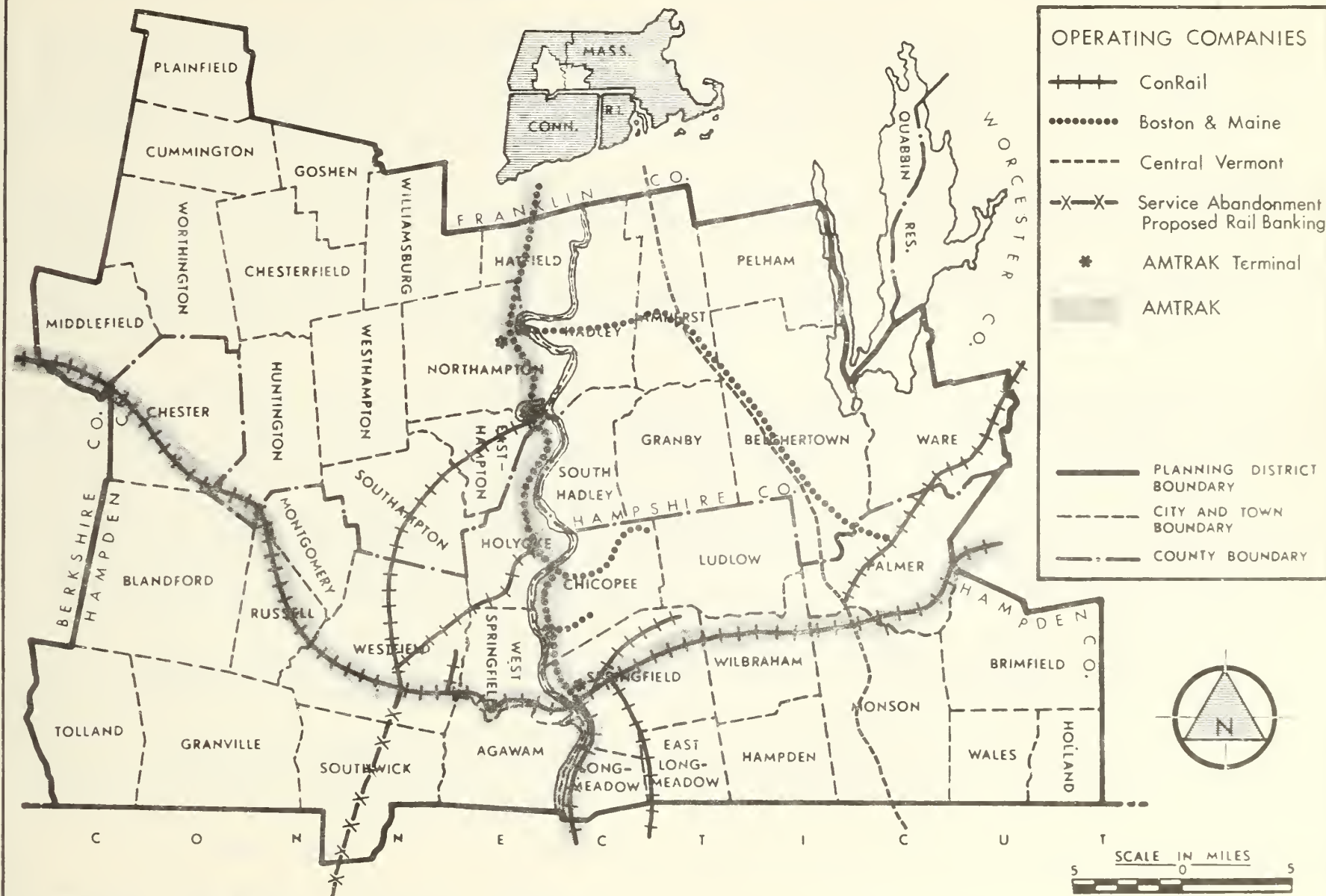
Commuter rail service between Springfield and Boston, once a major transportation link, was terminated several years ago. Recent efforts to revitalize this service have thus far proved futile due to financial constraints and equipment deficiencies. Efforts to reinstate service are continuing, however, with prospects for success unclear at this time.







## REGIONAL RAIL SYSTEM (1980)



LOWER PIONEER VALLEY REGION

FIGURE 12

Map of the State of New York



Currently, Springfield and Northampton are the only municipalities directly served by AMTRAK within the region. The interurban rail (trolley) transportation system once serving almost the entire Western Massachusetts community has since been replaced with a fairly extensive bus network.

There are three carriers presently providing freight services in the Lower Pioneer Valley Region: ConRail, the Boston and Maine Railroad (B&M), and the Central Vermont Railroad (see Figure 12). ConRail is composed of rail lines which formerly were the property of the Penn Central Railroad. It operates an east-west mainline through the Region, along with two southerly lines which traverse Connecticut on route to New York shore points. Under a subsidy agreement with the Commonwealth of Massachusetts, ConRail also provides freight service to a number of shippers located along the Ware River Secondary Track located in Ware and Palmer.

In addition to the ConRail services provided in the region, the Boston and Maine Railroad operates a north-south mainline which parallels the Connecticut River, with spurs to Westover Air Force Base, Easthampton, and Amherst. B&M has formally proposed to abandon its Northampton, Amherst, and Belchertown spur under Interstate Commerce Commission (ICC) proceedings.

Finally, the Central Vermont Railroad (a United States subsidiary of the Canadian National Railroad) operates north-south trackage from Vermont to the Connecticut shore via the Lower Pioneer Valley Region. Although this line is not heavily travelled, it is well managed and continues to operate at a profit.

#### Bikeways

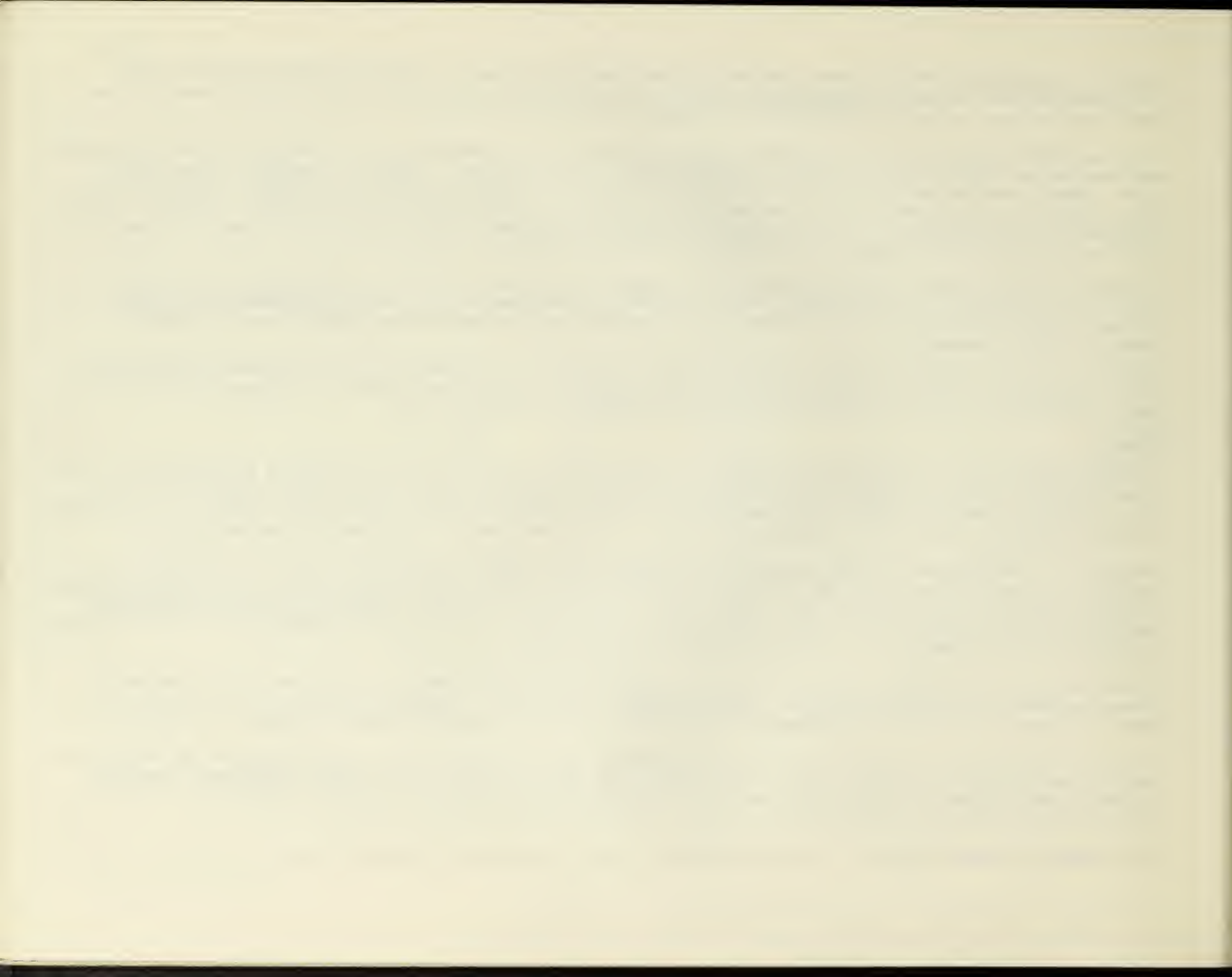
Following completion of the Preliminary Bikeway Plan in 1975, the LPVRPC has worked to advance implementation of the plan. Public interest in bicycle use has increased drastically in recent years, generating a variety of proposals for municipal and regional bikeway development projects. The Chicopee-West Springfield Bridge Bikeway, and the Five-College Bikeway are the two key components of the plan to which the Commission has devoted special attention.

The LPVRPC, in conjunction with the MDPW and local planners from Chicopee and West Springfield, have inspected and completed preliminary design work for the conversion of the Chicopee/West Springfield Bridge to an exclusive bicycle/pedestrian facility over the Connecticut River. The future status of the bridge conversion project is contingent upon receiving additional funds, since an engineering study recently completed by a private consulting firm indicates that rehabilitation costs will be higher than originally anticipated.

Another important link in the Regional Bikeway Plan is the Five-College Bikeway, a triangular route which would connect colleges in Northampton, Amherst, and South Hadley. Research on possible alignments for the bikeway is ongoing in connection with a grant proposal to be submitted for "unique" regional bikeway funding.

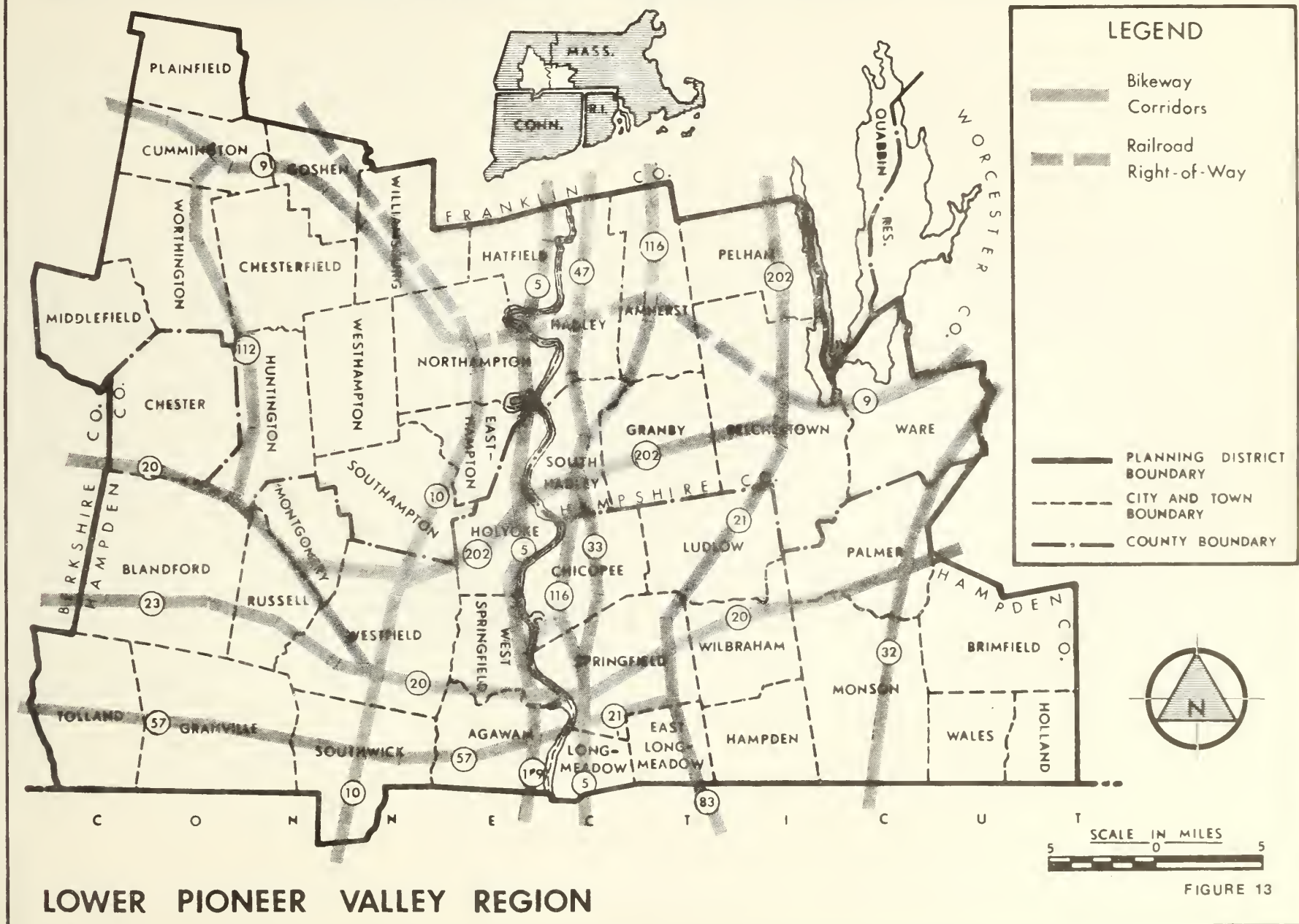
Progress in continuing in Agawam and Northampton to advance local bikeway projects. Both Agawam and Northampton are nearing completion in the design phase of the bikeways which will be located within their communities. The Town of Amherst has successfully implemented several local projects using local and state funds, with several additional segments proposed over the next several years.

Many different communities in the region are beginning to show an interest in bikeway development, and are presently





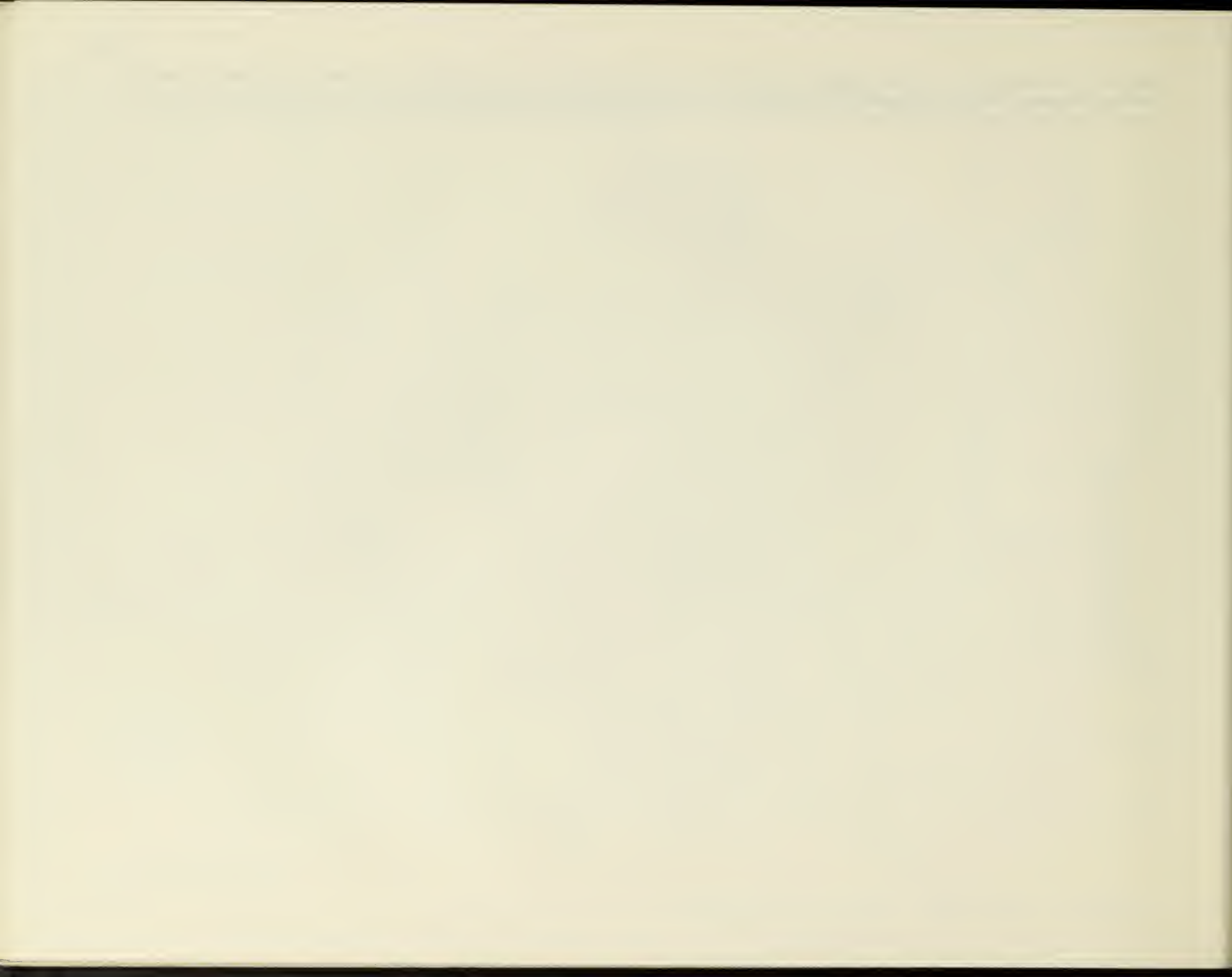
# PROPOSED REGIONAL BIKEWAY SYSTEM (1980)







preparing bikeway plans. The LPVRPC foresees the connection these local bikeway projects with the regionally focused bikeways to be a foundation on which to build a bikeway system accessible for both commuter (short-distance) and recreational (long-distance) trips. The proposed regional bikeway system is shown in Figure 13.



## REGIONAL TRANSPORTATION PLAN: ISSUES AND NEEDS

Since the development of the LPV Region's initial LRE in 1977, there have been several major transportation issues and trends at work that will directly or indirectly impact the long range needs of the various transportation systems in the region. Some of these factors can be controlled or influenced by local, regional or state policies and actions. Other factors are in the province of federal, state or local government, market, or natural forces to which regional planning must adhere or adapt. Some of the major regional transportation factors which will affect the future development of the region, and which should be considered in long-range planning for transportation facilities and services in the region, include the following:

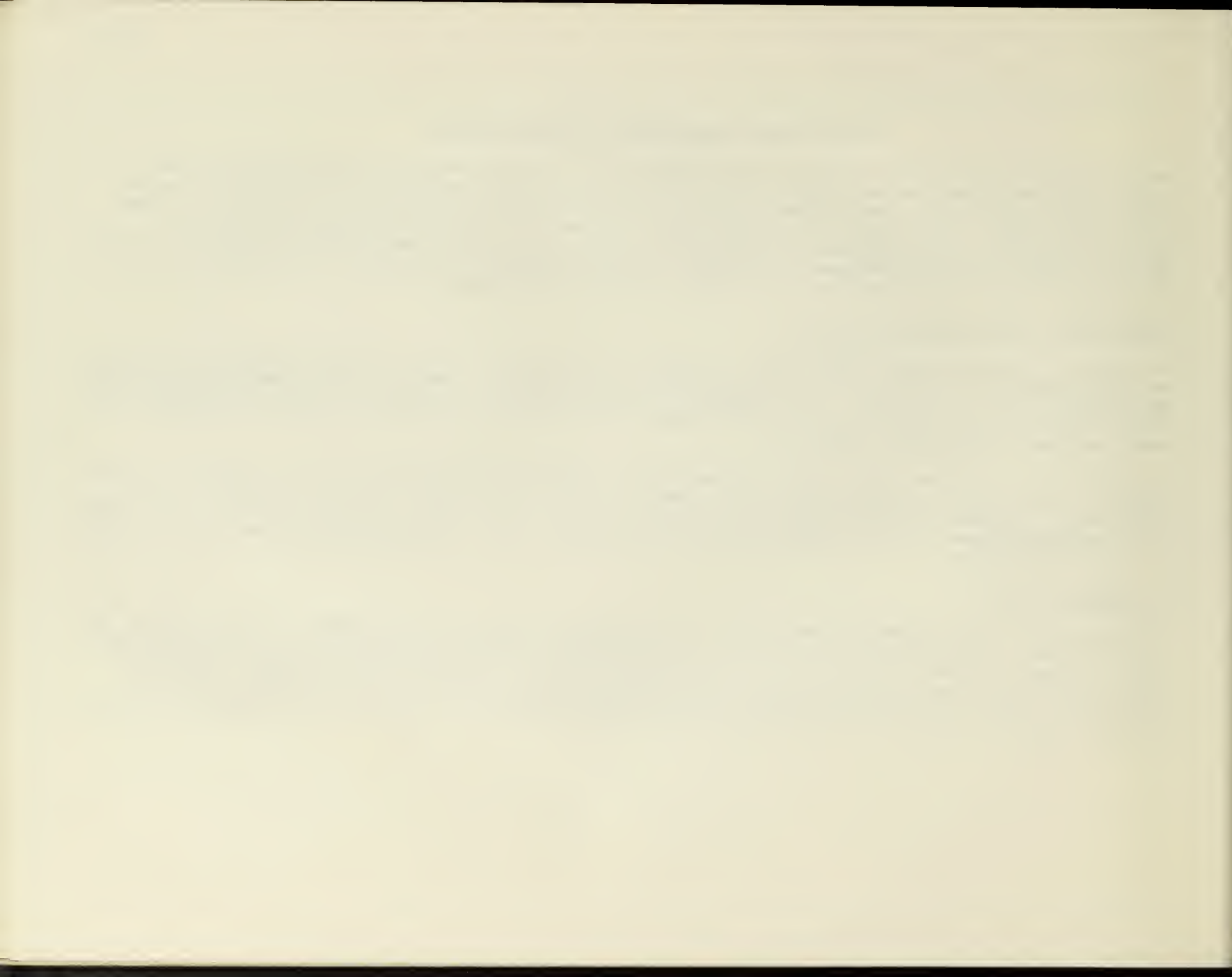
### Energy Crisis: Fuel Availability and Cost

As a result of rapid and unpredictably shifting conditions in the national and international political and petroleum supply system, the limited availability, and rapidly escalating cost of motor fuel has become the most critical transportation issue of 1977-1979. The increase of up to 50% and more in the prices of gasoline and diesel fuel in the LPV Region and the rest of the U.S. have already had a pervasive influence on patterns of travel that will likely continue into the 1980's and beyond.

The major benefit and burden of the energy shortage has most immediately accrued to the public and private transit systems in the LPV Region, but the impact on other modes of transportation will become more pronounced in the coming years. This most significant shift in the region's transportation burden and potential will require changes in the Long-Range Element of the Transportation Plan if the region's goal of transportation system access and mobility is to be maintained:

### Environmental Concern

In the more than a decade since the passage of the National Environmental Policy Act (NEPA) in 1969, there has been a major increase in the LPV Region and nationally in the concern for improving and maintaining environmental quality. In several instances, the potentially adverse alteration of environmental systems has been a determining factor in the official approval or disapproval of several transportation and other land development projects. Several recent cases of environmental concern impacting highway transportation projects in the region have involved potential traffic air quality and land development consequences.



### Air Quality

While it has long been a general environmental concern, the enactment of the 1977 Federal Clean Air Act Amendments has separated and defined the issue of Clean Air as a nationally targeted problem and goal. In order to comply with the Federal mandate, the LPVRPC, in late 1978, prepared the region's transportation element for the State (Air Quality) Implementation Plan (SIP). The SIP is basically an air quality standards compliance assessment in which each state is required to develop and identify actions necessary for attainment and maintenance of federally established air quality standards.

### Regional Bus and Rail Transit Systems

The Pioneer Valley Transit Authority (PVTA), AMTRAK, and private bus systems, are now being required to assume the burden of a sudden and significant shift of ridership from private automobiles to the region's transit network. Between June and August 1979, PVTA ridership increased 25% (and has remained up) despite an increase in the regional base fare. The PVTA established in 1974, and which now serves 21 area communities through the services of seven public and privately owned bus systems has significantly upgraded transit service in the last two years to allow it to better meet the present demand.

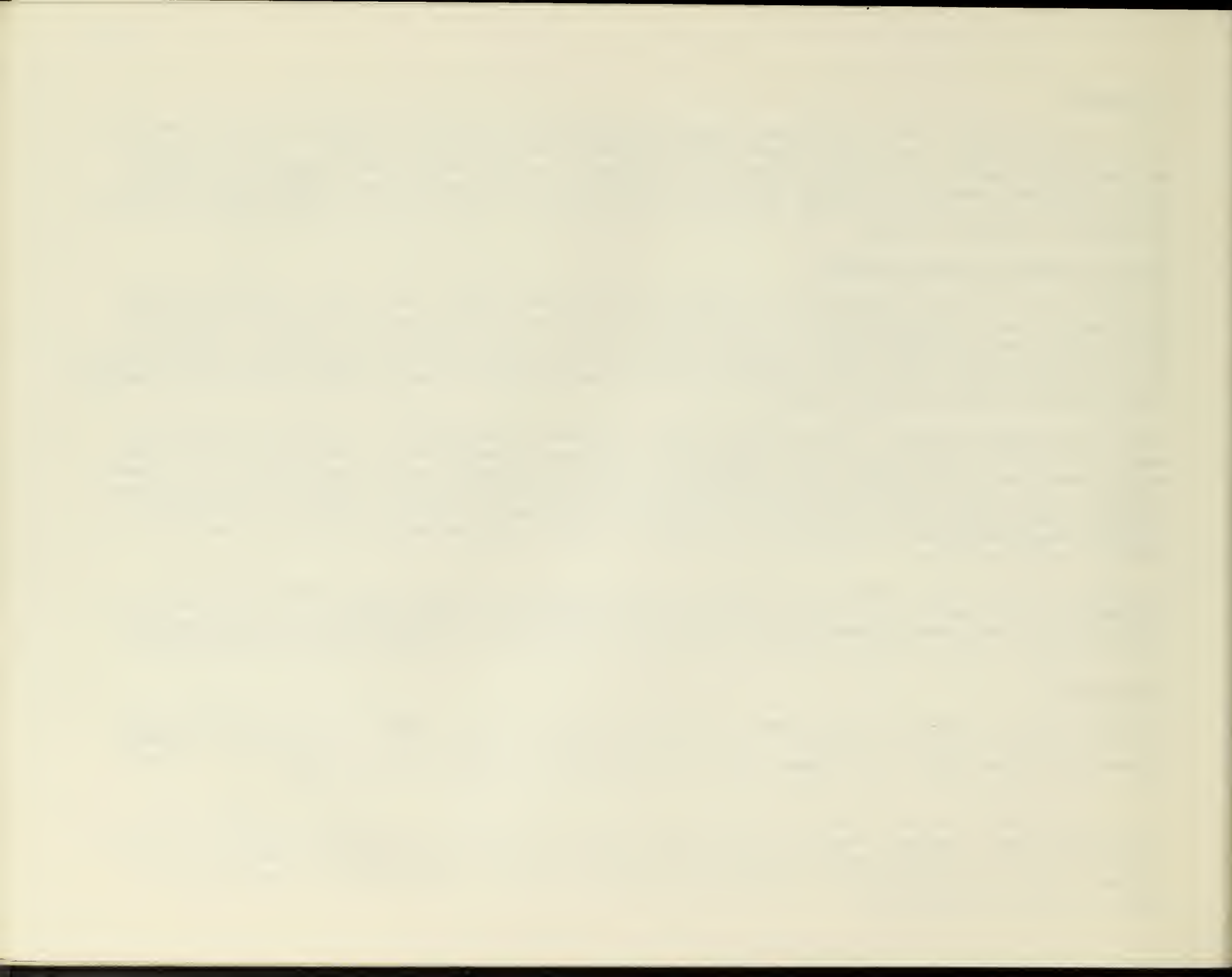
A major improvement in regional transit service in late 1978 was the replacement of virtually all of the older buses of the region's transit system with a new fleet of 125 Advanced Design Buses. These buses offer a wide array of amenities for the region's bus riding public, including its elderly and handicapped riders. The buses' features include wider entry doors, curb-kneeling capability in addition to better heating and air conditioning, a smoother ride and more window viewing area. Equally significant was a wide-ranging package of routing and scheduling improvement that will improve transit service to better match the needs and cost constraints of the region's transit operations.

The region's intercity bus systems have also been constantly upgrading their fleet and Amtrak/CONN DOT plans introduction of new commuter rail cars on Amtrak Springfield-Hartford-New Haven commuter line in the near future. Further improved and probably expanded transit service will be needed for the foreseeable future to handle the shift in ridership from the single occupant private auto, and to maintain the region's goal of multi-modality.

### Air Transport

While the region has several relatively small, private air fields, the major commercial airport for the region is in Connecticut at Bradley International Airport, where passenger and air freight activity has been steadily increasing in recent years. The increase in air travel at Bradley and other airports has been due to a combination of bargain air fares, and increasing costs of, and uncertain availability of auto fuels.

The only airfields in the region with the potential, at present, for commercial, passenger or freight are at Barnes and Westover. However, outside of some freight service, few commercial passenger operations are presently planned for Westover, although this potential may be pursued in the future, particularly if Bradley's activity continues to grow. The encouragement of expanded air passenger service in the region is in keeping with the region's goal of multi-modality.





### Ride Sharing (Car and Van Pooling)

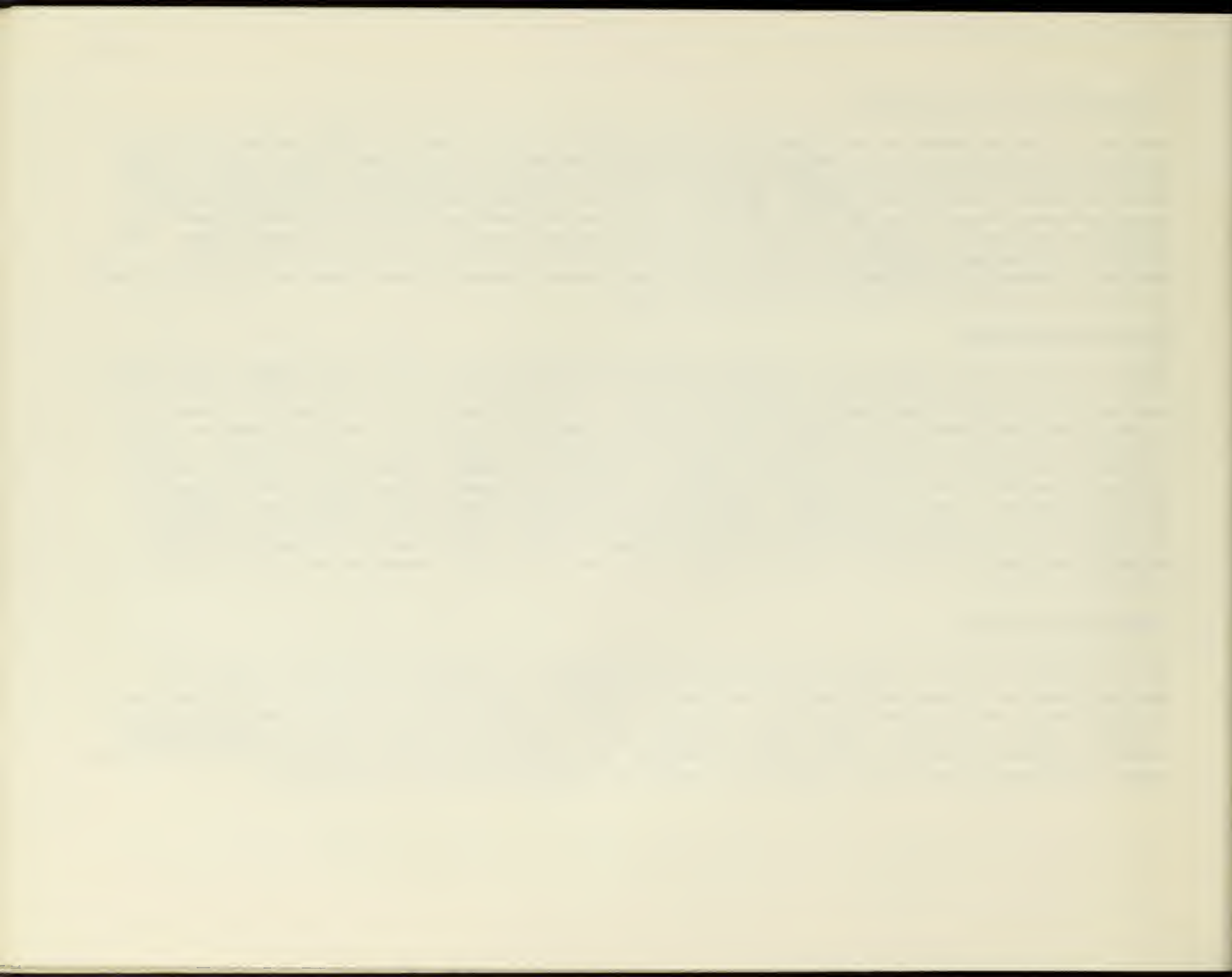
Residents of the LPV Region who are either not served by public or private transit service, or who find their operations incompatible with their needs, are now exploring ride-sharing alternatives in large numbers. While many workers in the region have organized informal carpools to common employers or work centers, those working for major employers have another option. Since early 1978, an LPV-based regional office of a statewide ride-sharing program, Masspool, has been providing the coordination and promotion required for the development of carpools by employers in the region (and the rest of Western Massachusetts) who have 250 or more workers. With hundreds of carpooling arrangements already developed (as well as the potential leasing of vans to major employers), Carpooling and Vanpooling coordination through Masspool appears to have a long-term role in furthering the region's energy/cost efficiency and coordination goals.

### Bicycle Transportation

Since the 1970's bicycle sales and use have taken notable upward directions in both the LPV Region and the rest of the U.S. From 1970 to the present, bicycle sales have outpaced automobiles nearly every year, and a total of over 100 million bicycles have been sold during that period. Sales and bicycle use have escalated dramatically as people have re-discovered the cost efficiency and health benefits of the bicycle for utilitarian as well as recreational purposes. The major obstacles to more extensive bicycle riding in the region have been: the need for safe river crossings, the region's hilly terrain, few and narrow useable roadways, and long-term snow and ice conditions during the winter. Some major projects, including a bikeway for the Chicopee-West Springfield Bridge, and bikeway routes in the Amherst, Agawam, Holyoke, Northampton and Five-College area are attempting to encourage bicycle use. More incentives for bicycles in the region's urban areas including the development of bicycle lanes and parking/storage facilities will probably further increase use in the region of a transportation mode that is feasible for many short urban trips and is thoroughly compatible with all of the region's transportation goals.

### Mopeds and Motorcycles

Two motorized alternatives to the automobile and bicycle modes have also gained additional users in the LPV Region in recent years (as evidenced by increases in registrations). Motorcycles, and the unlicensed low-powered mopeds, are attractive to many area residents in providing considerable fuel savings over the automobile, and having motorized hill-climbing ability in the Valley region's rolling terrain. However, several factors including weather limitations, traffic safety problems, and air and noise pollution have to be resolved before extensive or promoted use of this mode can be considered. The promotion of the region's energy-efficiency goal by mopeds and motorcycles provides an incentive for working to overcome their traffic limitations.



### Pedestrian Activity

The encouragement of longer and more frequent pedestrian trips in place of the auto in urban centers is gradually increasing in LPV urban areas. A planned major transit/pedestrian mall in downtown Springfield in addition to several minor street closings (increased downtown housing in Springfield and Northampton), and pedestrian circulation improvements in several LPV urban centers have begun to encourage long-term parking and increased walking in urban centers. While pedestrian movement conforms to all of the region's transportation goals, its limitations of distance and untenable weather limits its encouragement in urban core areas and access to suburban schools and shopping.

### LPV Paratransit Service Needs for the Region's Elderly

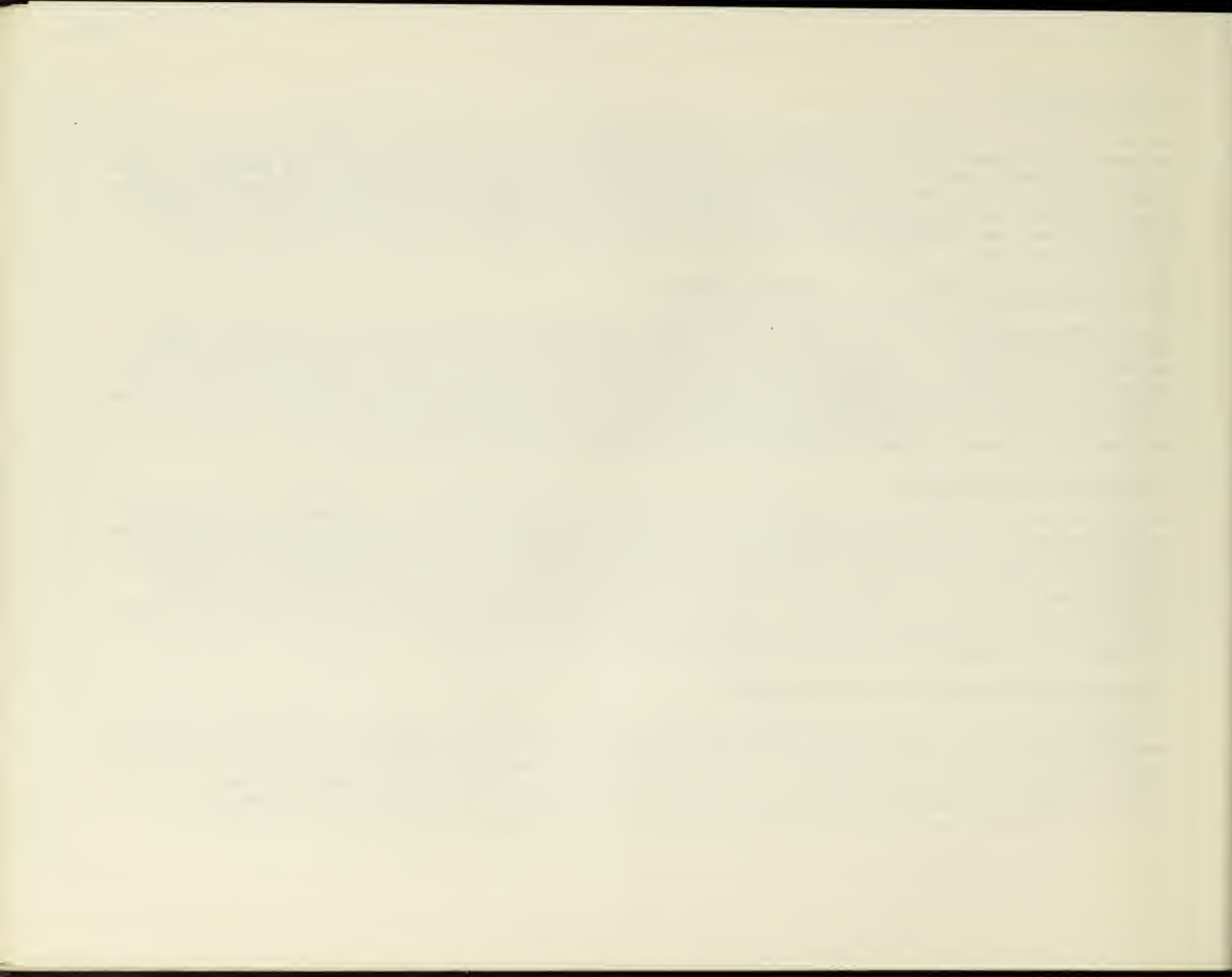
The low-density population pattern of much of the special transportation dependent elderly of the LPV Region, coupled with its hilly terrain and limited major highway system requires alternatives to conventional transit equipment to meet certain of its transportation needs. The growing number of elderly in the region, and their increasing transportation requirements, are testing the capabilities of the region's paratransit services. The number of vehicles and types of paratransit services and needs are expected to continue to grow in the region and the need to provide a coordinated and cost-effective system for the many residents of the region who do not have an automobile or cannot utilize the fixed-route transit services operated by the PVRTA.

### Automobile Ownership Patterns

The future trend in the purchase and ownership of private autos in the LPV Region as elsewhere in the nation is somewhat unclear. While transit ridership and carpooling has increased and the purchase of large cars has (somewhat) decreased, the number of cars registered in the region continues to increase. The principal explanation appears to be that area residents are purchasing cars and related motor vehicles for specialized trip purposes (such as commuting and recreation) and driving fewer annual vehicle miles due to increasing fuel costs and questionable availability considerations. Patterns in the types of vehicles being used for various trips, and their individual trip and annual vehicle mileage need to be monitored to determine if the goal of fuel and cost efficiency in the transportation system is being attained.

### Inter-regional and Interstate Travel Movements

The heavy daily movement of people and goods to and from adjacent Franklin, Berkshire, and Worcester Counties in Massachusetts, and the northern portion of Hartford County in Connecticut, is likely to continue to influence regional commuter transportation patterns; residential settlement, commercial and industrial location, and commodity supply patterns in the LPV Region are strongly dependent on the east-west (I-90) and north-south (I-91) interstate network. The only major interstate-related project presently under construction or planned in the region is: the I-391 Bridge and Connector elements in Chicopee and Holyoke. This project is not expected to



substantially alter interstate or inter-regional traffic. The present and apparently future limited interchange structure on both I-91 and I-90, and the fact that I-90 is a toll road, may also limit any major changes in inter-state or inter-regional travel.

#### Slowing of the Population Growth

The LPV Region is experiencing a slow but steady population growth rate that, coupled with constraints imposed by fuel cost and availability considerations, should reduce the need for many new major highway construction projects. The present and future population of the region should be able to be accommodated by relatively minor improvements to the existing highway system, space and energy-efficient transportation modes and programs, and upgrading and expansion of the regional transit system. Federal transportation policy, through the Transportation Systems Management Element, requires examination of means to obtain maximum utilization of existing transportation facility investments.

#### Growing Mobility Needs for the Handicapped

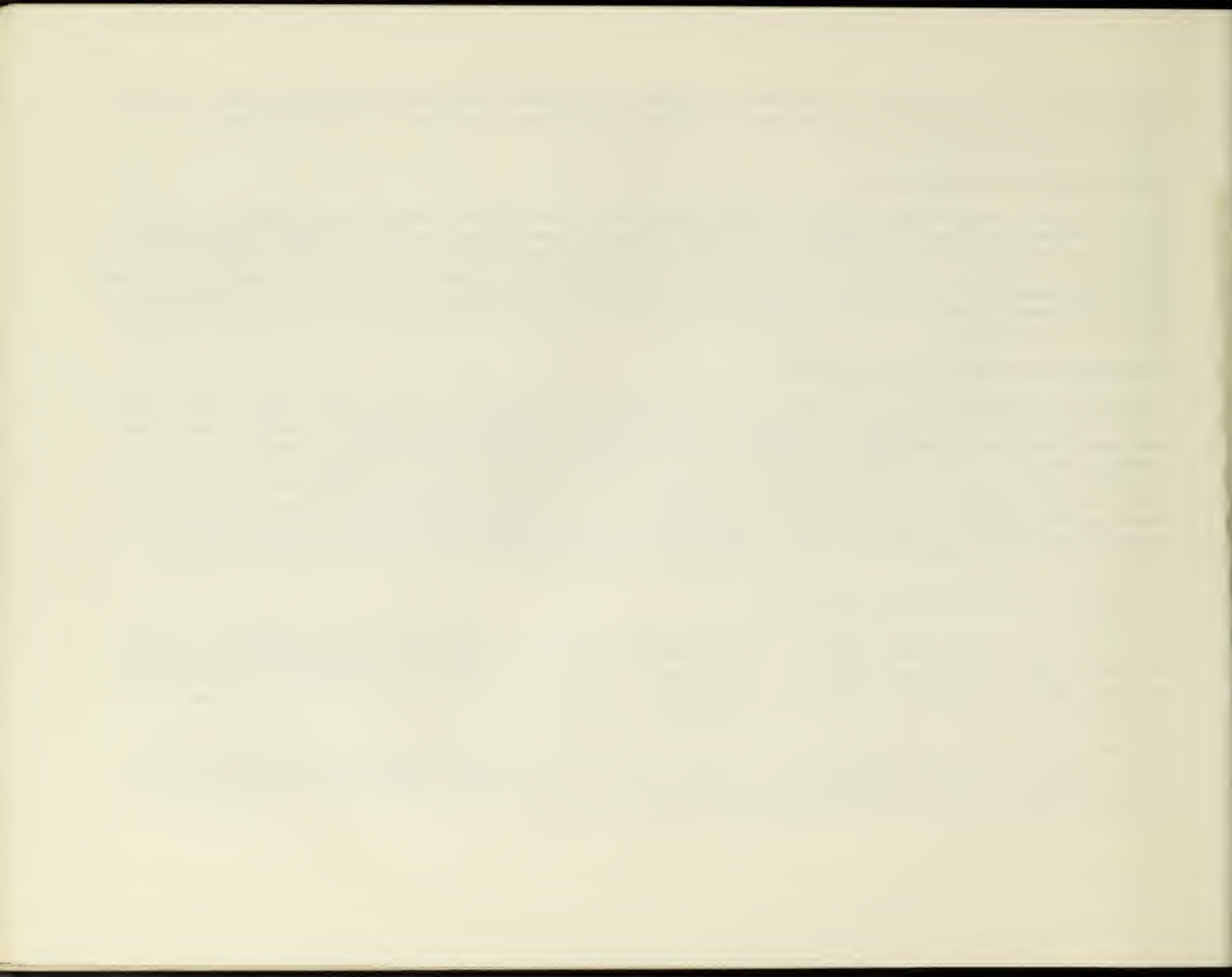
The handicapped segment of the population in the LPV Region and nationally is quite strongly and visibly moving into the mainstream of the region's work force and transportation system. Their needs for special transit and paratransit vehicles and services will likely continue to grow in the foreseeable future. The PVTA, and the LPVRPC are seeking to expand and coordinate these transportation services. As with transportation for the elderly, mobility services for the handicapped are in keeping with the region's multi-modality goals. The recently issued and defined guidelines to the Section 504 Regulations of the 1973 Rehabilitation Act are having a major impact on public transportation services in the region. A fleet of public and privately operated specially equipped vans as well as improved access to public transportation terminals and vehicles are significant responses to the requirements set forth in the Section 504 Regulations.

#### Increase in the Region's Elderly Population

Since both the average age is rising, and number of elderly persons in the LPV Region is increasing, the transportation needs of the region's elderly are also growing. Since many of the elderly depend on mass transportation, major additions and improvements to both the paratransit and bus system in the LPV Region are aiding their mobility. It is likely that there will be an expanding need for paratransit vans and easy access buses in the foreseeable future, in keeping with the region's multi-modality goal.

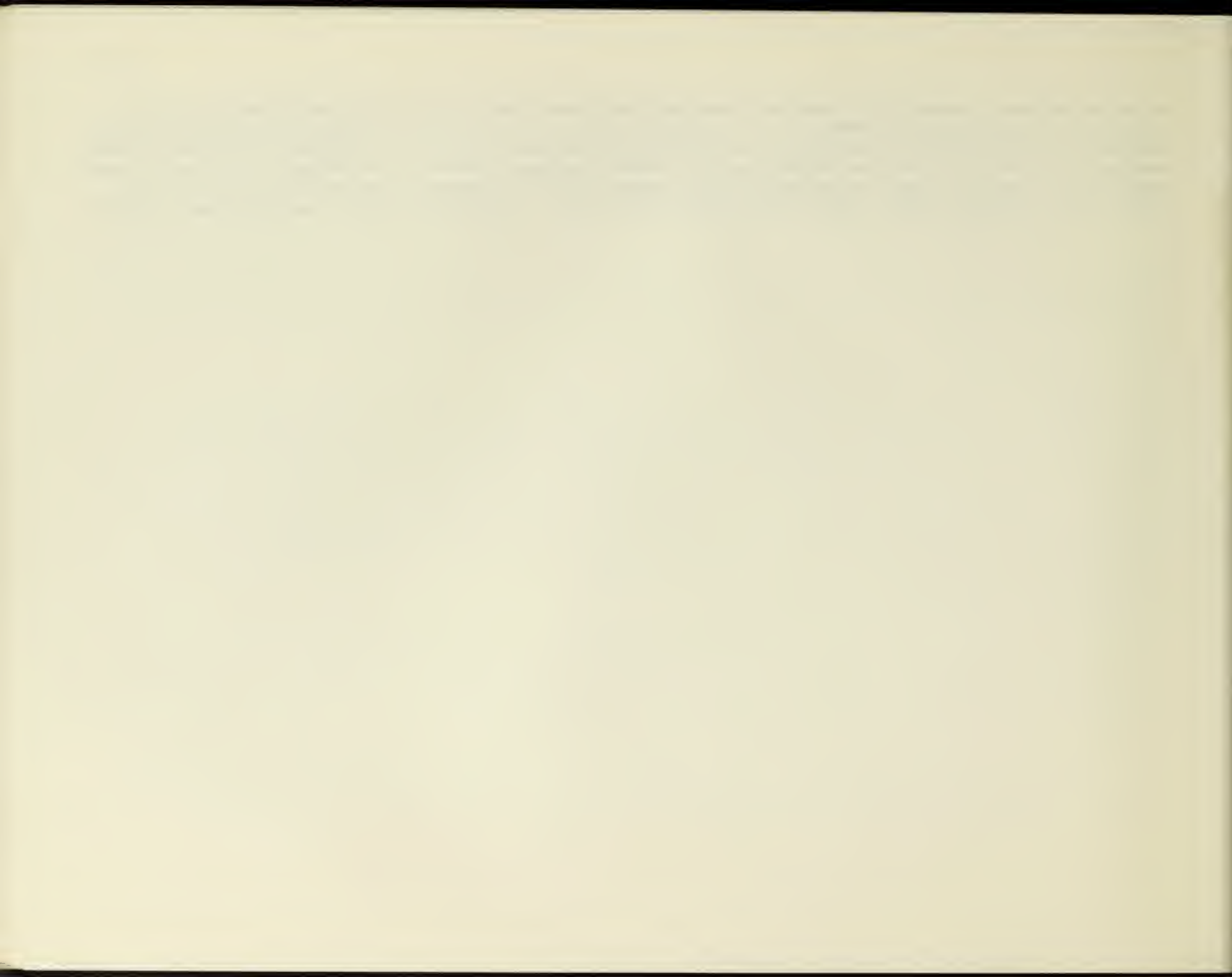
This section of the LPV Transportation Plan has served to introduce the background of the Long Range Element (LRE) as well as the present developments and trends of the more significant transportation issues facing the region. The next section of the report will explore recent changes in socioeconomic conditions in the region, and their potential impact on long-range transportation needs.







The major regional transportation issues and needs that were identified in this section are shaped not only by national and international developments, but also by more subtle and often equally pervasive socioeconomic trends. The next part of this section of the Transportation Plan details some of the more significant socioeconomic trends underway in the region in the time period since the initial Long-Range Element of the Transportation Plan was prepared in 1977. Among the major socioeconomic trends examined for their impact on transportation systems in the region were: employment trends, major land use development projects, and regional housing and employment patterns.

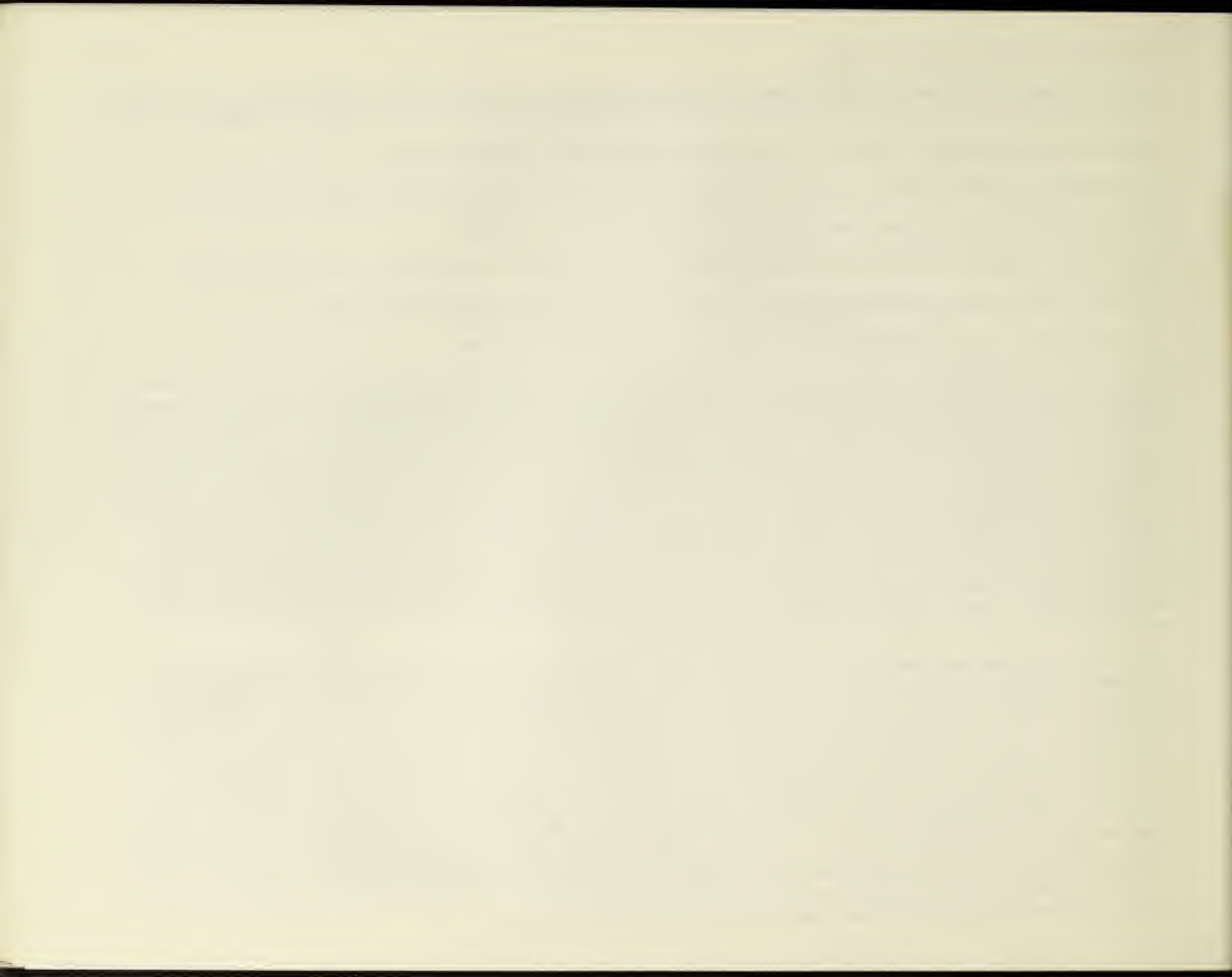


Since 1977, the major transportation-related land use developments in the LPV Region have involved the following.

- (1) Development of two major regional shopping centers in key suburban locations in Hampden and Hampshire counties;
- (2) Downtown redevelopment programs are underway in several of the region's cities;
- (3) Riverfront and Water Quality Plans are opening possibilities for expanded recreational waterway uses;
- (4) Several special-use recreational facilities are proposed for the region;
- (5) A regional land use inventory and growth plan for the year 2000 was developed by the LPVRPC in 1978;
- (6) Public housing opportunities are being expanded into the region's suburban areas; and,
- (7) Agricultural land preservation has also become an issue of major concern.

Two major regional shopping centers, one of 80 and the other of 170 stores were proposed, planned, and constructed between 1977 and 1979. Both these shopping centers have caused immediate and long-range transportation impacts which are evidenced by an estimated 6% increase in traffic between 1976 and 1978. The 80-store center in Hampshire County has somewhat more immediate negative impacts due to its location with respect to existing transportation facilities and services. The center was constructed on Route 9, a 2 to 4 lane rural highway that links Amherst with Northampton. The highway was already burdened with a heavy traffic load due to recent residential and commercial development on and adjacent to the highway corridor. The LPVRPC transportation staff conducted a study in mid-1978 of the potential traffic impact of the proposed center on Route 9 and projected that the additional traffic generated would put certain intersections and parts of the roadway either at or near capacity levels. The mall, however, was constructed, resulting in an immediate and continuing traffic dilemma on Route 9 when the mall opened in the Fall of 1978. The mall continues to present a major traffic generator for Route 9 which was only somewhat relieved by substantial improvements in transit service on Route 9, implemented during the Fall of 1979. Major capital-intensive traffic and roadway improvements may also be needed, particularly near the mall's location on Route 9 in the Town of Hadley.

The second major regional shopping center, constructed during the 1977-79 time period was the Holyoke Mall, although more than 2.5 times larger than Hampshire Mall, had a somewhat less extensive traffic impact when it opened in July, 1979. The reasons for this less severe traffic impact compared to Hampshire Mall involved the following: (1) the Holyoke Mall was constructed in an area where traffic volumes were moderate; (2) it was located adjacent to a full-directional I-91 interstate interchange necessitating little travel on local streets; (3) a special access road and traffic signalization system was installed to ease mall access and egress; (4) the mall serves as a one-stop commercial center and does not generate additional trips to nearby commercial locations, since there are few at the present. While its traffic impact has been relatively moderate despite steadily increasing traffic volumes since its opening, the mall portends several possible major traffic impacts. These include: (1) the growing volume of traffic; the mall opened with only about one-third of its complement of stores in place, and the full impact of its traffic has not yet been encountered; (2) the locating of the mall in an essentially undeveloped area opens the possibility of attracting additional commercial activity. If the adjacent acreage is developed with high traffic-generating commercial uses, traffic increases and the possible future need for substantial roadway (and transit) improvements.



Downtown Revitalization plans involving short and long-range transportation improvements are underway in all of the region's cities. The revitalization plans which mainly focus on commercial development are underway in Springfield, Chicopee, Holyoke, Northampton, Westfield, and West Springfield. A redevelopment plan (published in 1978) entitled "It's TIME for Springfield" was published by the City in 1978 and detailed all major downtown plans including a 4-block, \$4 million transit/pedestrian mall, some minor street closings, and revamping of the traffic network, including a revised ramp system for I-91 and Memorial Bridge. In Chicopee, the Market Square Commercial complex plans include street and sidewalk improvements. In Holyoke, the sidewalk along High Street is being rebuilt and widened; and in both Chicopee and Holyoke, sections of I-391 are under construction. Several TOPICS-type improvements have been completed in Westfield which may well have an impact on CBD traffic circulation. In Northampton, street, sidewalk, signalization, parking and bikeway projects are in the planning stages for downtown. West Springfield also has preliminary plans for improvements in downtown pedestrian and traffic flow, and bikeway plans which include links to Chicopee and Springfield across the Connecticut River.

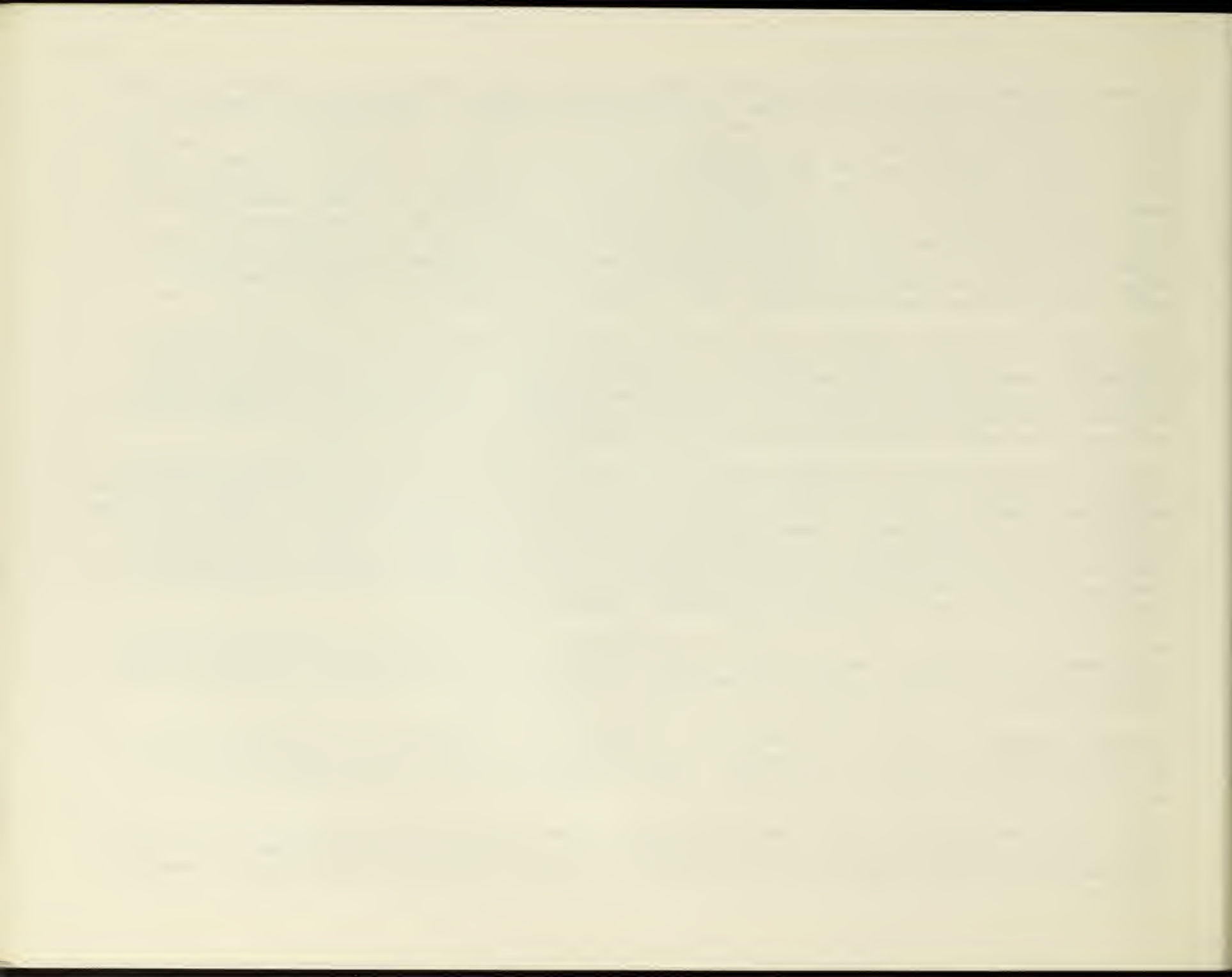
Water travel in the region is virtually all recreational, and recent planning efforts may result in increases in that activity. The recently initiated planning of the entire Springfield riverfront (River Design Springfield-1979) and the Commission's recently completed Section 208 Water Quality Plan should lead to increased interest and recreation/transportation activity on the region's lakes and rivers - particularly the Connecticut River. While most of the new activity is likely to be essentially recreational, the scale and cost of water-related projects require long-range consideration particularly that involving waterway facility access.

In the last few years, several large-scale recreational racetrack facilities for horse or dog-racing have been proposed at several locations in the region. These facilities which would have transportation implications in the need for access roads, as well as transit service and parking facilities have been proposed for communities in the southern portion of the LPV Region. These proposals have been rejected one or more times in Chicopee (Westover), West Springfield, and Agawam, and a proposal was presented to Southwick in August of 1979. While all of the proposals to date have been defeated, the continued resurgence of the proposals may lead to one or more being implemented. The long as well as short-range transportation implications in terms of additional highway facilities and/or transit service needs of this type of development should be evaluated.

Special assistance programs, such as the region's Areawide Housing Opportunity Program, Urban Homestead and Community Development programs are assisting in the movement of lower income area residents into the suburbs and declining urban areas and closer to many job opportunities. The housing shift of low-income residents will likely impact some PVRTA routes and services as well as the region's highway system.

A recently developing concern in the LPV Region for the preservation of agricultural land is having an impact on transportation planning. Land that is presently in agricultural use is desired by many to remain in that use for the agricultural self-sufficiency of the region. Since new highway projects in the region might have to take existing farm land, they face an added obstacle.

Finally, the LPVRPC completed a region-wide land use inventory and regional growth plan in 1979. Several growth policies of both a short and long-term time frame formed an integral part of the long-range element of the growth plan, and have transportation implications. These policies and their transportation implications are summarized as follows:





### Long Term Growth Policies:

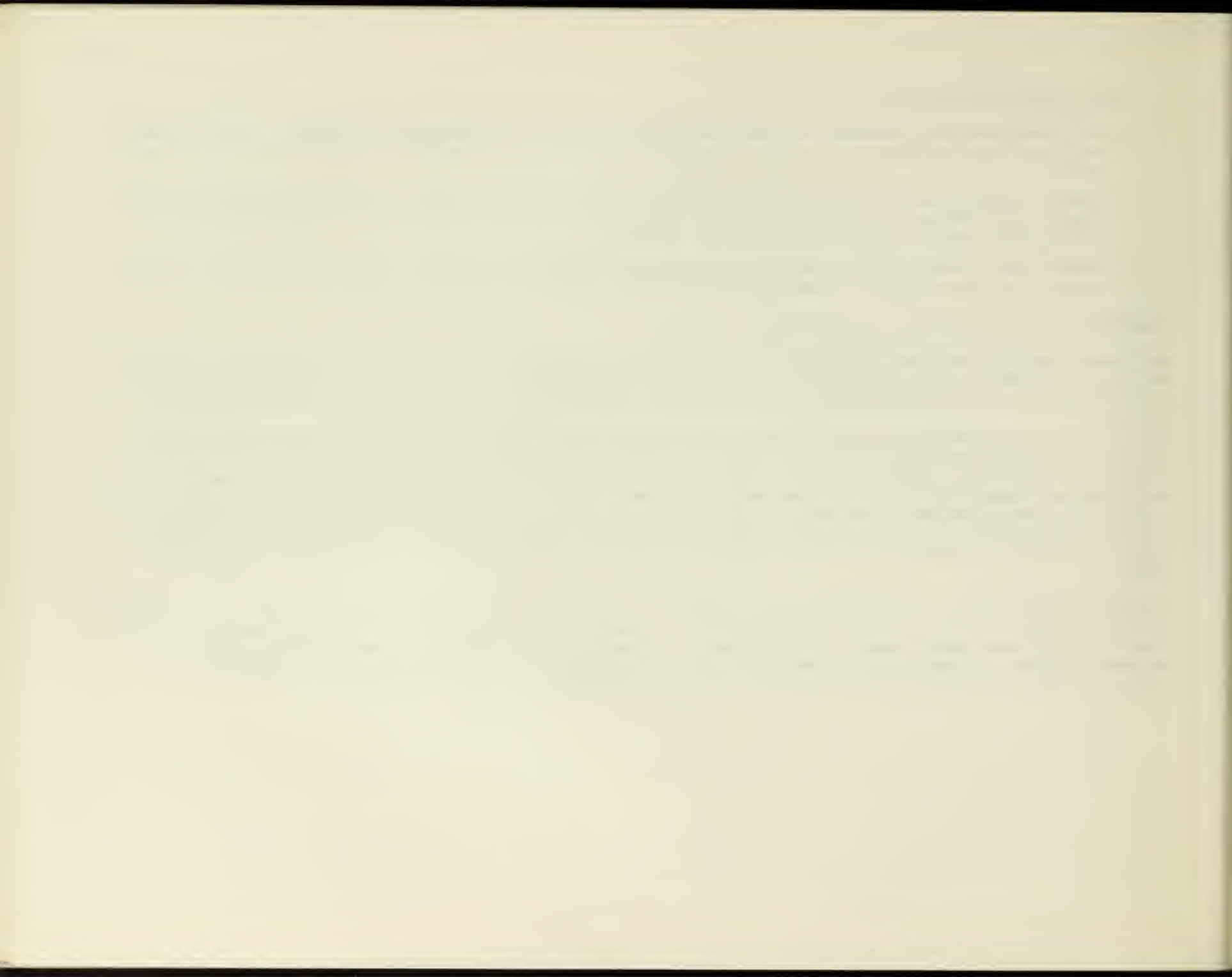
- New development only where public facilities and services can be economically provided. Costly highway and transit system extensions would only go where heavy use and a favorable economic return would justify them.
- Growth in environmentally sensitive areas should be avoided where possible. Major transportation facilities (i.e., highways, rail lines, airports, etc.) have a major and usually quite negative impact on environmentally sensitive areas and should be limited.
- Growth should take place at different and appropriate levels of intensity. New transportation facilities to serve an area should not exceed, nor underserve existing and potential needs.

### Employment Factors Influencing Transportation Planning

Employment stability manifests its effect upon transportation facilities in a very fundamental manner. Employment stability means, literally, the continuation of established home-based work travel patterns. Instability in this component of long-range planning often results in some disruption of regularized trip distribution.

Since 1977, the major employment factors affecting transportation planning in the Lower Pioneer Valley Region have been: (1) a full recovery of manufacturing employment jobs lost during the 1975 recession, (2) the steady decline in the region's unemployment rate despite additional people entering the labor force, accompanied by an end to special Federal and State extended benefit employment assistance, and temporary CETA job programs; (3) the bypassing of the region by the national housing construction and related employment boom; (4) the remaining heavy dependence of the region upon export industries which are sensitive to and dependent upon the economic health of the national economy; and (5) the general economic recession of 1979 shows signs of continuing into 1980.

The key work associated with employment in this region over the past three years has been recovery. The region's industries, which are the basis of its economic health, and have been responsible for this recovery from the recession of 1975 have been: transportation equipment, automobile tires, sporting goods, games, fabricated metals, machinery, paper, printing services and public service employment. Data corroborating this trend has been gathered from the Massachusetts Department of Employment Security (DES), (See Fig. 14).



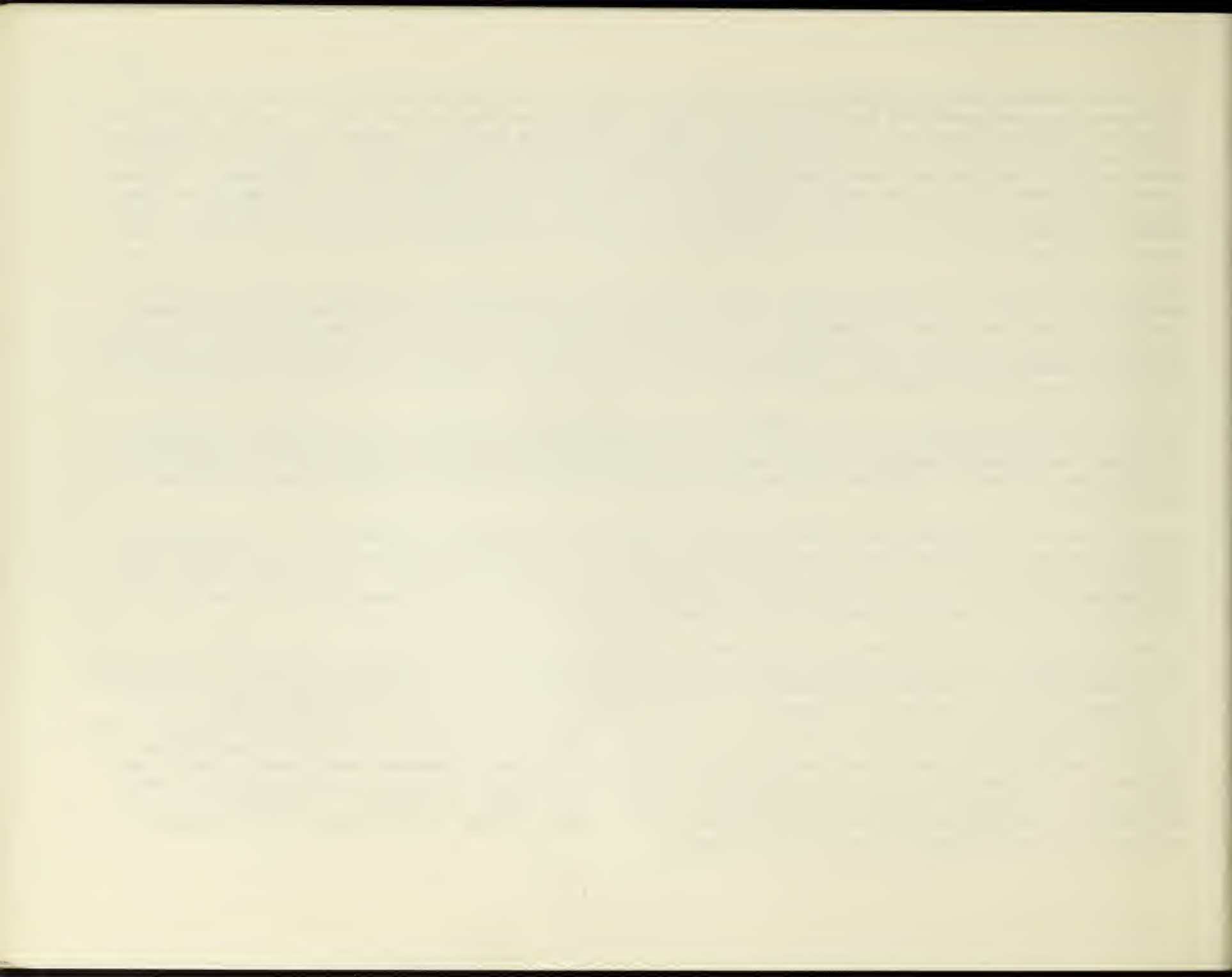
This strong economic position is most notably pointed up in recent surveys of Lower Pioneer Valley area firms representing a cross-section of the Springfield, Chicopee, Holyoke Labor Market Area (LMA). Over the past 25 years there have been boom times for (1) transportation equipment (accounted for by the nation's present high demand for truck and aircraft parts) and (2) in the non-electrical machinery sector which provides a wide range of capital goods products. The most encouraging news has been the boom in the capital goods sector. Stimulated by constantly increasing prices, capital goods purchases have increased markedly. This is especially true of capital equipment purchased under military contract and to a somewhat less degree, this is also true for civilian contracts. As one example of a new market for this region's goods, Package Machinery has announced recent sales to the Peoples Republic of China.

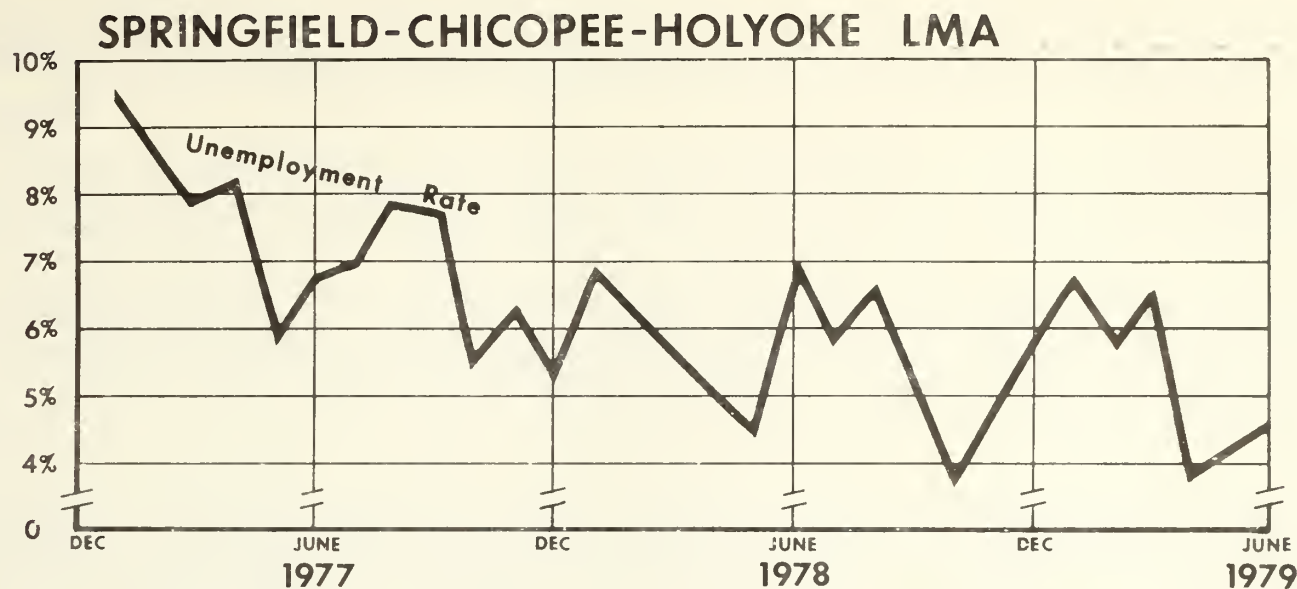
By 1977, the region had fully recovered from the effects of the 1975 recession. In October of 1978, the region's manufacturing payrolls reached 67,400 jobs. This equalled the October 1974, pre-recessionary period's highest levels. This employment gain has generally been taken up by existing industries, but also new firms have moved into the region, meaning additional job openings. These new jobs have been located in municipalities already characterized for their employment opportunities. Such municipalities include: East Longmeadow, Northampton, Springfield, South Hadley, Chicopee, Holyoke, and West Springfield.

Not only has employment grown, but most manufacturers have increased the volume of their production. Productivity has surpassed the 1974 high previously recorded. This increased productivity can be accounted for by improved techniques, additional automation, and the settling of labor-management disputes. This greater output and sales has meant more shipments. Shipping increases have been absorbed by the region's traditional means: trucking, rail, and air freight.

During a one-year time period, August 1977-1978, the non-agricultural employment segment of the non-manufacturing division registered its biggest employment gain on record in this region. By August of 1978, an additional 3,400 jobs had been added within a twelve month period, thereby reaching a total of 157,000. Other areas of the employment market which may not have had such notable increases have stabilized and have been affected by minor employment fluctuations caused by seasonal operations and replacement hiring.

There are indications that the rate of unemployment in the region has steadily declined. In fact, every year since the 1975 recession, the average rate of unemployment in the Lower Pioneer Valley Region has dropped by an additional 2 percentage points. This rate of economic recovery has been better than the national or state trend. In fact, it surpassed that of Massachusetts in December of 1978. During the period January 1975 through January of 1979 the State's unemployment level fell from 11.2 percent to 6.1 percent; while the level of unemployment for the Lower Pioneer Valley Region fell from 11.3 percent to 5.3 percent. Much of this decline is due to the accompanying growth in employment throughout the Labor Market Area, and the expiration of Extended Unemployment Benefits made available in 1976 and 1977. To partially offset the expired unemployment benefit program, the federally funded Comprehensive Employment Training Act (CETA) program, hired a large number of unemployed individuals for government and other non-manufacturing openings. For example, in October of 1978, such non-manufacturing payrolls received their largest gains as a result of this program.





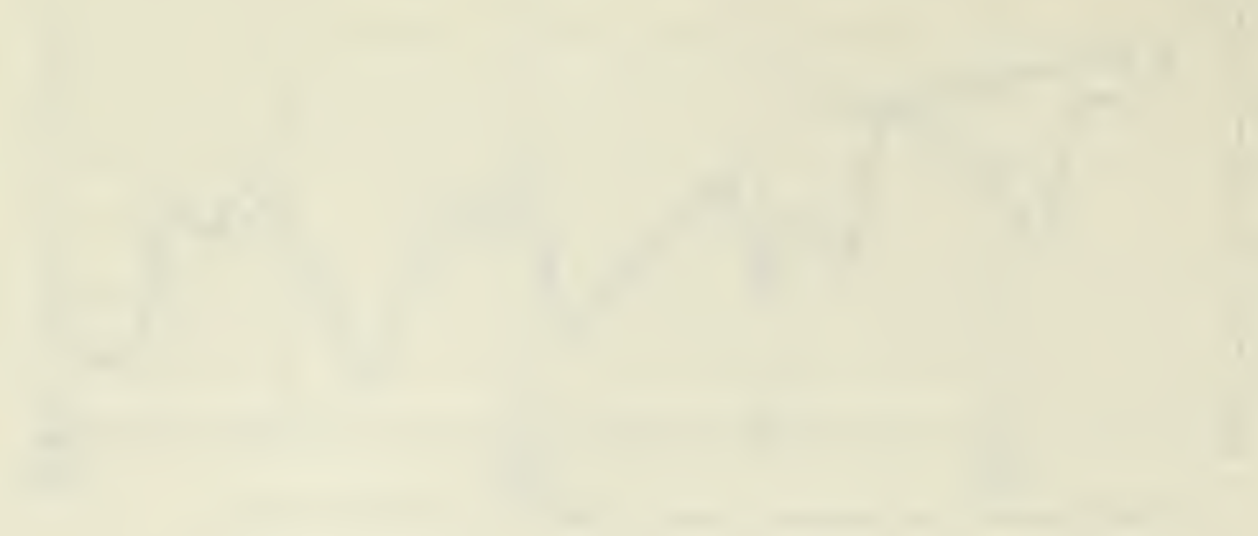
SOURCE: Mass. Div. of Employment Security—Research and Information Service

FIGURE 14

Overall employment in the region has continued this improvement trend through the first half of 1979, despite the energy crisis. The LPV region's Labor Market remains stable despite recent fuel shortages, an independent truck drivers strike, and inflation growing at a record annual rate of more than 13 percent. Additionally, there have been gains in the region's seasonal employment, and its textile and apparel industries.

Two labor market concerns which could adversely affect regional travel behavior are: (1) that the region has been bypassed by the post-1976 housing construction boom (to be discussed in detail later on in this section under Housing Factors Affecting Transportation Planning), and (2) that since 90 percent of the products produced in this region are shipped out-of-state, the nation's economic health, represented by the Gross National Product, tends to be a particular concern in this region's employment future. With the G.N.P. showing no growth over the first half of 1979, and the federal government predicting that the nation's economic condition will worsen through early 1980, some manufacturing firms, especially in the durable goods producing sector are considering making use of more overtime hours in place of hiring temporary help. Such an action could indicate an anticipated weakening in demand for products from this region. As the national, state, and regional economies slow down and factory orders become sluggish, new job creation could stop almost altogether. Recent reports indicate that inventories are beginning to accumulate and have increased 12.9 percent over 1978 (an indication that shipments may be declining). This factor accompanied by rising transportation and fuel costs has resulted in net profits generally remaining the same as the previous year (1978) with some exceptions. Management is making efforts to keep key costs to a minimum. For example, one major cost, salaries have been somewhat restrained by last year's federally-imposed





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seven percent wage-price guidelines. As a consequence of these recent developments and other indicators, government economists are projecting a national unemployment rate of 8.2 percent by the end of 1980.

#### ECONOMIC INDICATORS

As has been stated in the previous section dealing with employment factors, a region's economic health and stability influences the travel behavior within it. This is particularly true with regard to trip purpose, frequency, vehicle miles of travel (VMT), and mode of transportation.

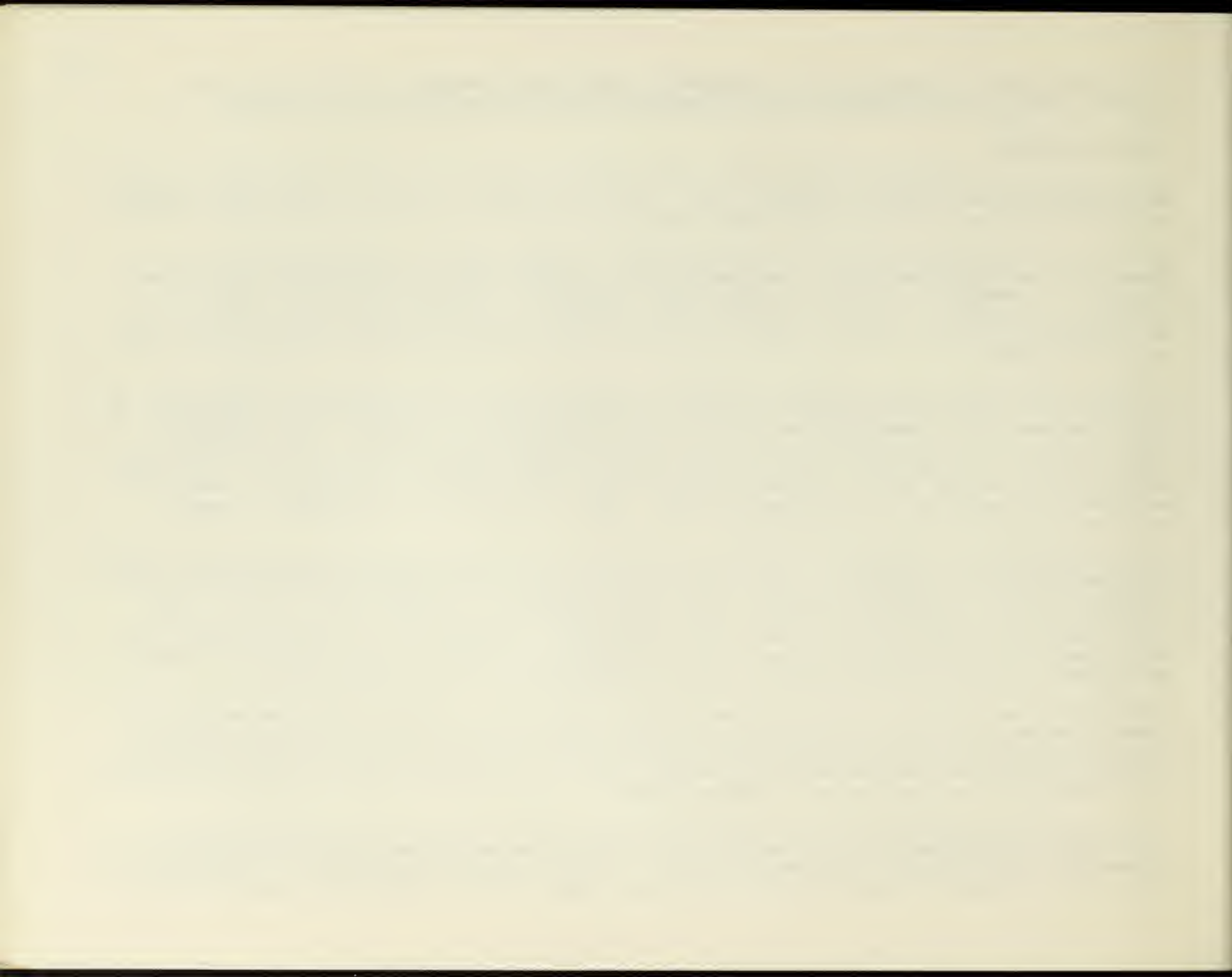
Since 1977, the major transportation related developments on the Lower Pioneer Valley Region affecting the purchasing power and decision-making of the individual resident, employer, and governmental official involve the following: (1) emergence of a cautious, recession-minded populace; (2) an inflationary rise of the Consumer Price Index; (3) 'survival' strategies being employed by households to maintain their present standard of living; (4) curtailment of vacation travel as a result of the high cost and scarcity of gasoline; and (5) a rise in the region's birth rate.

Earlier in this section, mention was made of certain recessionary signs which were beginning to appear in the region (among them: use of overtime instead of hiring, increase in inventories, and net profits leveling off). The federal government first acknowledged that we were in a recessionary period in mid-1979. Recent predictions forecast this lasting into mid-1980. A recessionary period, in economic terms is one in which the nation's total output of goods and services (adjusted for inflation) fell more than 9 percent. To put this into a current perspective, in July of 1979, the U. S. Commerce Department reported that the nation's annual rate of productivity had fallen by 3.3 percent in the second quarter of 1979. This 'dip' was the first such decline in somewhat slowly rising productivity level that began back in early 1978.

As the economy slides into recession, the impact is expected to be felt most in the industrial North East. Among the northeastern states, Massachusetts is expected to bear the brunt of the recession in New England, based primarily upon the state's sensitivity to capital and consumer industries. One consumer industry which involves transportation and is particularly important to the Pioneer Valley tourism is expected to be particularly hit hard. Already, the gasoline crisis has been attributed with being responsible for a 2.5 percent decline in vacations from 1978. As gasoline prices approach the \$1.25 per gallon mark, the decrease in vacations is estimated to become 7 percent, and could decline by 17 percent if gasoline prices reach \$2 per gallon.

Although people have been coping with rising gasoline prices among other recessionary inconveniences, there are economists now saying that this recession should not be unduly severe in the Lower Pioneer Valley Region, and whatever impact does accrue will be cushioned by the region's high technology industries which are still booming. As an important point to note, four out of five new jobs created in the LPV Region during the past few years have involved computers or some other aspect of high technology.

While there have been traditionally high turnover rates in the region's leather novelties, wholesale/retail trade, amusements and recreation, health and education fields, the regional dilemma has been the slowdown in capital spending, caused mainly by a tight money market and a critical shortage of skilled labor. In Springfield, for example, Package Machinery recently announced that it was planning to build a manufacturing facility in Florida



where skilled workers appear to be plentiful. Not long ago, American Bosch, a division of Hamilton Standard Systems of United Technologies Corporation, said it was experiencing significant difficulty replacing its skilled workers as they retired, as well as having difficulty in hiring new workers and skilled machinists. Such shortages of skilled labor during a recession could seriously affect industrial productivity, especially when unemployment begins to rise and there are still too few highly skilled workers available from the unemployed labor market.

Fortunately, from the point of view of regional transportation stability, there are a number of positive signs: personal income remains high, job-creating programs are being encouraged by the federal government, and what little, private investment there is, when coupled with corporate profits, is expected to sustain the region's economy during the recessionary period. Another positive statistic has been the dropping number of mortgage foreclosures. In Hampden County there were only 212 foreclosures in 1978-79, a drop of 57 from the year before, and only 587 attachments, a drop of 68 from the 655 recorded in 1977-78. A similar trend has been confirmed in Hampshire County (other housing matters as they pertain to transportation planning will be discussed in the following section).

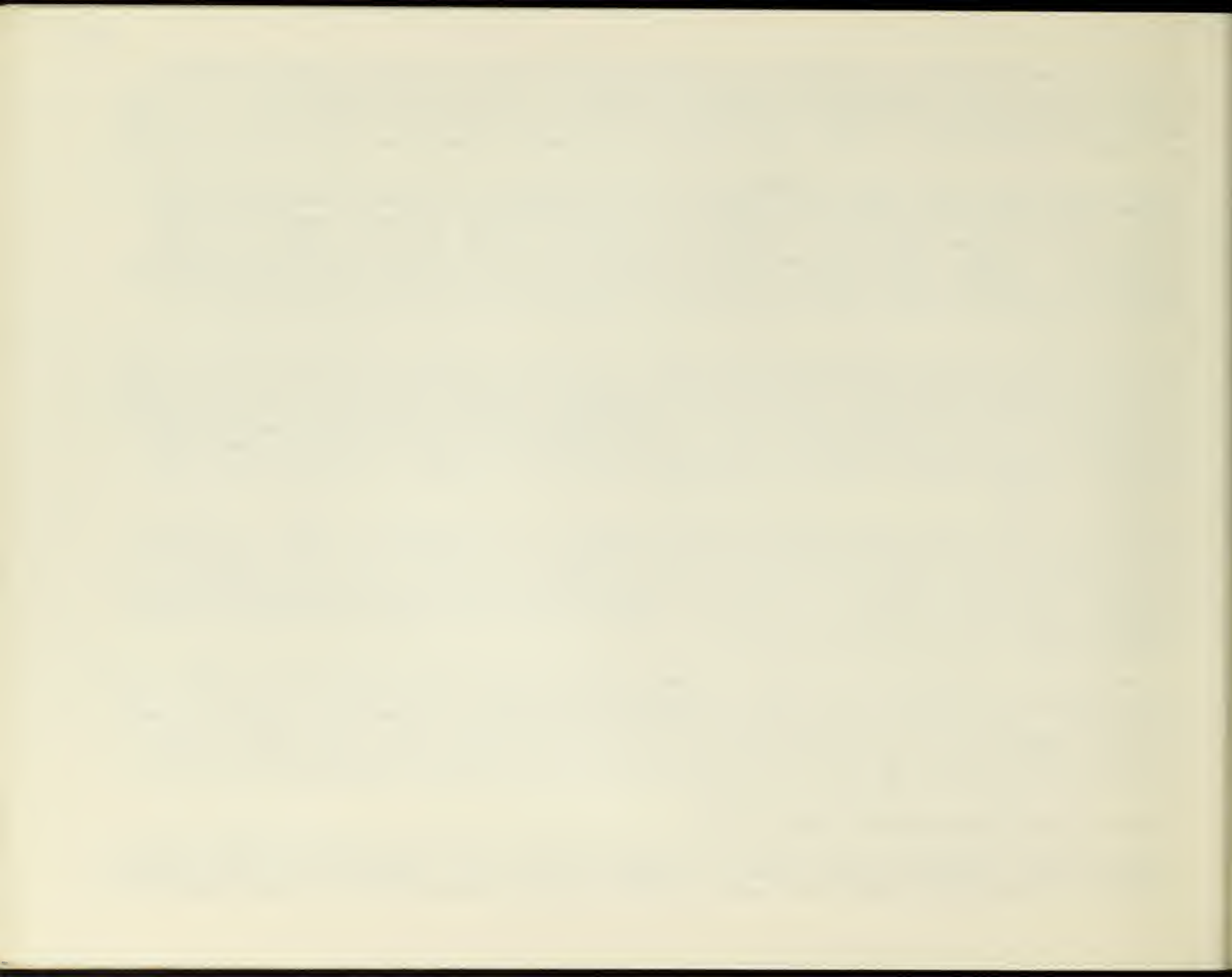
The preceding discussion of the region's economic condition is tied to the previous employment section with both providing insight into future trip making characteristics. As inflation and the cost-of-living rise, there comes a time when consumers will look more closely at their household budget's out-of-pocket costs. One item consuming a significant percent of that budget is the cost of transportation. Currently, Springfield ranks as the seventh most expensive U. S. city in which to drive a car. The operational costs per mile for Springfield on a subcompact car is 13.36 cents and 20.55 cents for a full-size car. The factors included in determining these costs were: the list price paid for a 1979 car, taxes and fees, depreciation, insurance, gas cost per gallon, and maintenance expenses.

Transportation costs, although following housing and food costs in terms of the absolute number of dollars devoted to them, are the fastest growing component in household budgets. As transportation related costs continue to rise, there will come a point in time when they will be regarded as one area for real cost savings by ride-sharing/car pooling and utilizing public transit modes. Economic considerations, accompanying a change in travel behavior of the type mentioned above, could lead to a reapportioning of trip generation characteristics within the region. For example, we could see an increase in 'home-based other' and 'non-home-based' trips as economy-minded individuals selectively shop for bargains.

In summary, and in preparation for the section to come, it should be noted that at this writing, the Lower Pioneer Valley Region has not experienced the minimum two successively, poor business quarters which constitute a recessionary slump. Local economists now believe that this region should feel the recession in only a minor fashion, due to the industrial mix and the fact that this region has not participated in the nation's large employment industries, namely automobiles and housing construction. Fortunately, for this region, layoffs will not come, particularly in the housing industry. In fact, commercial and industrial contract construction is on the rise.

#### Housing Factors Influencing Transportation Planning

Housing construction activity, as exemplified by volume and placement, has a direct effect upon public services, including highway facilities and public transit. For example, recent capital investments have been made by municipalities in the urbanized portion of the region in order to construct new trunk lines and sewage treatment faci-





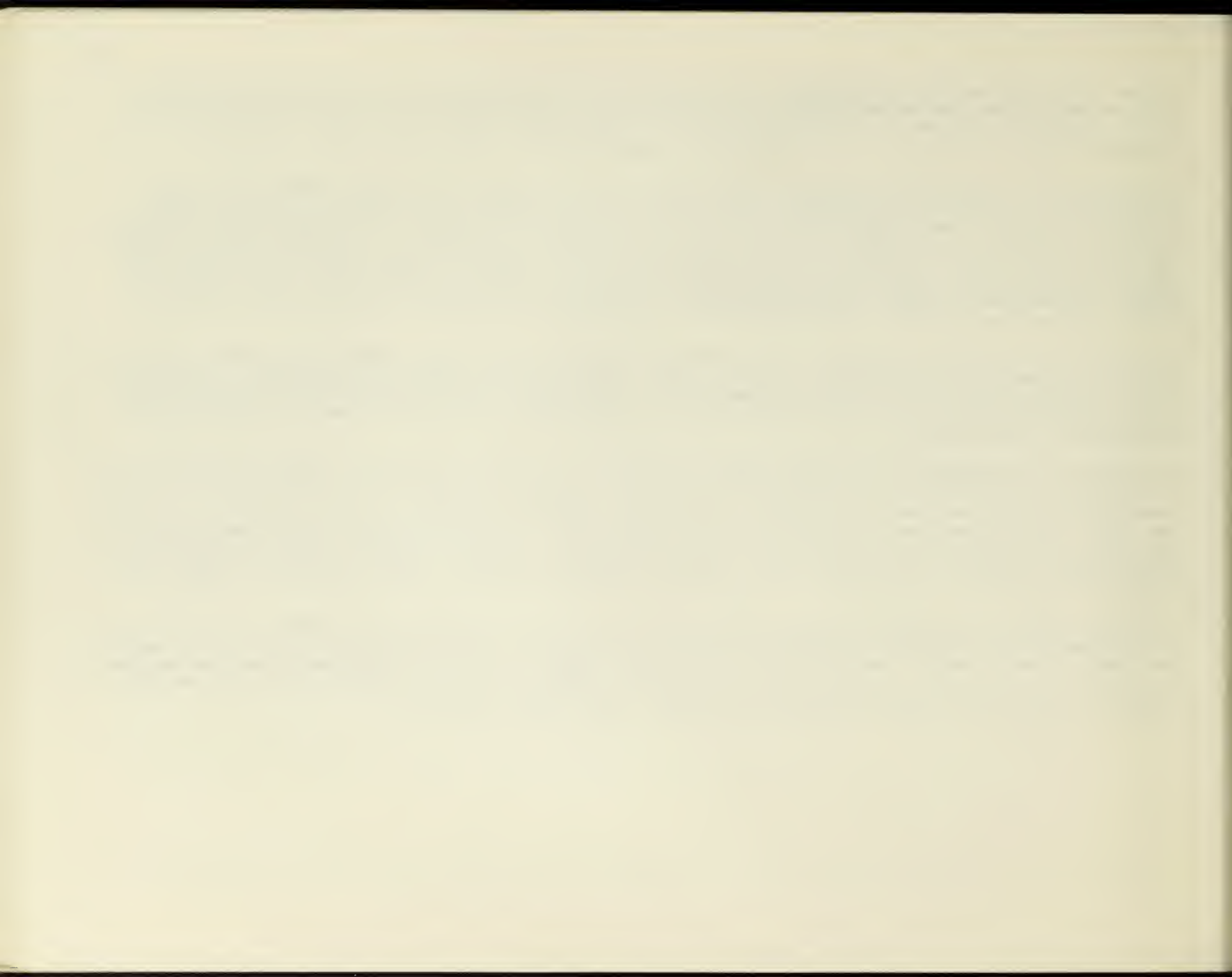
lities. These improvements are expected to result in future housing construction being concentrated in these areas served by these proposed improvements. As a result, it is expected that the occupants of this 'fill-in' type of residential land use, be it apartments or single-family homes, should revive interest in and demand for improved streets and highways, as well as accessible, inexpensive public mass transportation services.

Regardless of these recent capital improvements housing starts as well as other contract construction in the Lower Pioneer Valley Region have slumped from the high levels of 1973 and 1974. Evidence of this continuing slowdown is seen in the small number of property transfers recorded in the Hampden and Hampshire County Registry of Deeds. The number of transfers recorded for Fiscal Year 1978-79 were down in all categories from the preceding year's figures. What this means for the region is that new construction has not kept pace with housing demand. As a result of excessively high mortgage rates the inventory of homes available for sale has likewise declined. This decline has meant a heightened demand for apartments which are also in short supply. The net effect of these actions has been to lower the apartment vacancy rate.

The decline of new housing construction is not unique to the Lower Pioneer Valley Region but is rather a reflection of a nationwide economic downturn. Although these trends will undoubtedly reduce the supply of housing, it is not anticipated this will be a long term phenomena. As the economic situation improves and mortgage rates decline, housing starts are expected to RISE once again to keep more in pace with the demand for single family homes and multi-family units.

The Governor of Massachusetts has recently formed a commission to look into the current regulations affecting the construction sites for businesses, industry, and real estate operations, and has stated his opposition to restrictive legislative and environmental preservation requirements slowing and adding to the cost of business growth in the state. Such a stance should speed growth in industrial parks and in other locations, particularly those that were avoided to date because of environmental or legal limitations. Similarly, decisions have been made to roll back emission standards on stationary as well as mobile (automobile) sources to make it possible to burn cheaper fuels.

The next section of the LPV Transportation Plan details the first of the two major plan elements - The Transportation Systems Management Element. The TSME will address the major short-range and low-cost transportation improvement needs of the LPV Region. Many of both the short-range, TSME, and the longer-range LRE projects and programs that will be presented in the remainder of this document are designed to address transportation needs that developed as a result of the issues and trends identified in this section of the plan.





## LPV REGION TRANSPORTATION GOALS, POLICIES AND OBJECTIVES

This section of the LPV Region Transportation Plan sets forth the Transportation goals, policies, and objectives for the LPV Region. Aside from the parts of this section that deal with energy policies, there have been only relatively minor changes since the development and publication of the LPV Region's adopted Goals, Policies, and Objectives in the initial Transportation Plan LRE document in 1977. The following statement expresses the identified and adopted goals of the LPV Transportation Plan as part of a comprehensive development plan for the Lower Pioneer Valley Region:

"The LPV Region should strive to attain a safe and dependable transportation system for the movement of people and goods within and through the region that is: multimodal, coordinated, energy efficient, and environmentally sound."

While all the various parts comprising the transportation goals may not all be fully attainable, they give direction to transportation planning for the LPV Region and development efforts. As with any process seeking goal attainment, all LPV Region efforts at developing transportation facilities and services should move toward a more safe, more dependable and in other respects improved, transportation system for the region.

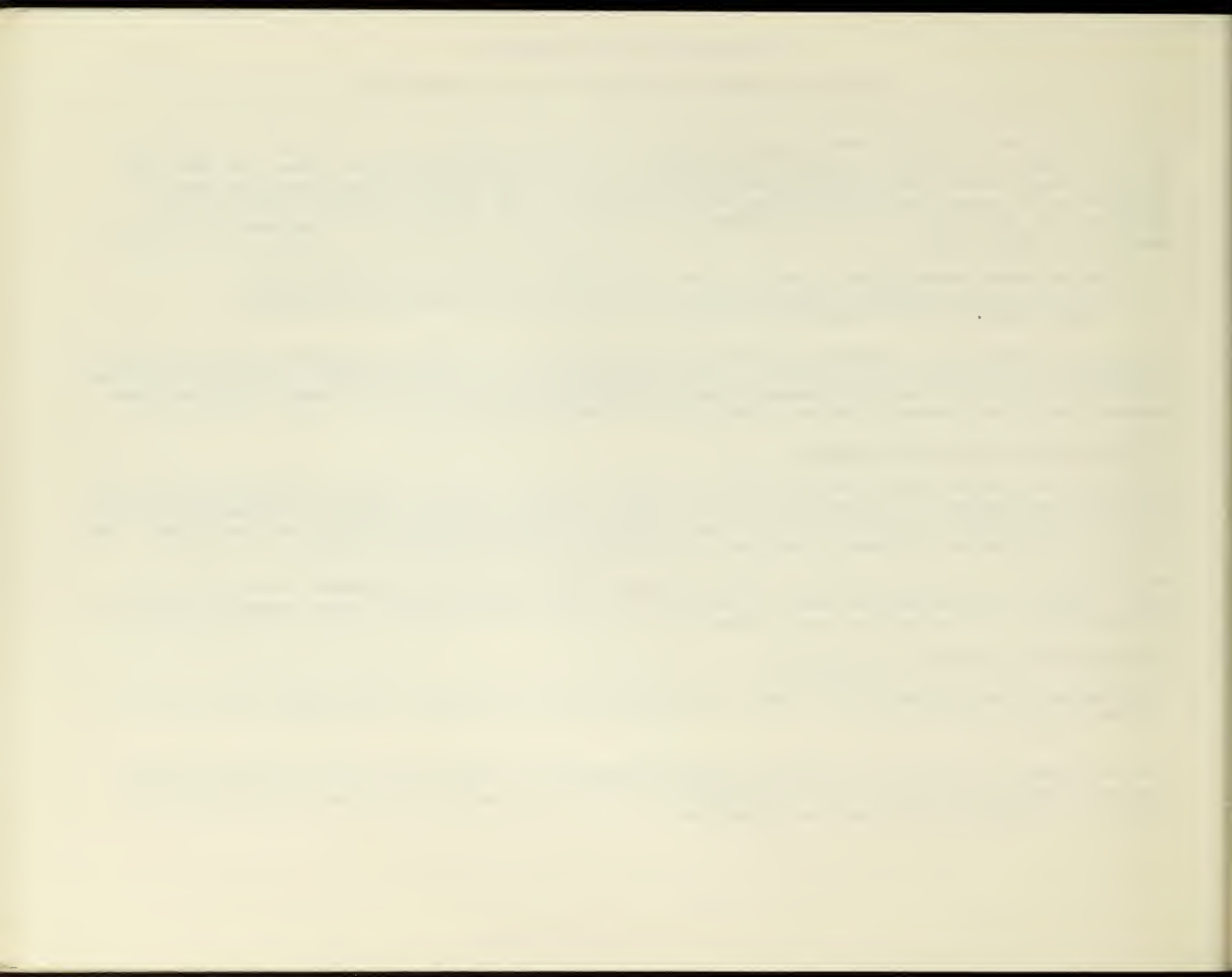
LPV Region Transportation Plan Policies

Policies are the adopted rules to control actions or decision making. As such they are on a comparable level with goals indicating the manner in which goals are to be achieved or the attitude and position of the agency with respect to determinations it must make. Policies are, therefore, important components of the planning process. They are basic to formulating development objectives, selecting projects, and setting priorities.

The following are the present policies to guide the transportation planning and development process in the LPV Region. They have been grouped and keyed to components of the transportation plan's goals, to assist in the understanding of their purposes and their application.

\* Multimodal Transportation System Policies:

- The planning for multiple mode use of rights-of-way should always be considered in the design of any new or improved transportation facilities.
- The development of innovative and alternative modes of transportation (such as car and van pooling, bicycling, low or non-capital system improvement, energy-efficient modes, etc.) should be supported as a major means of achieving transportation plan goals and objectives.

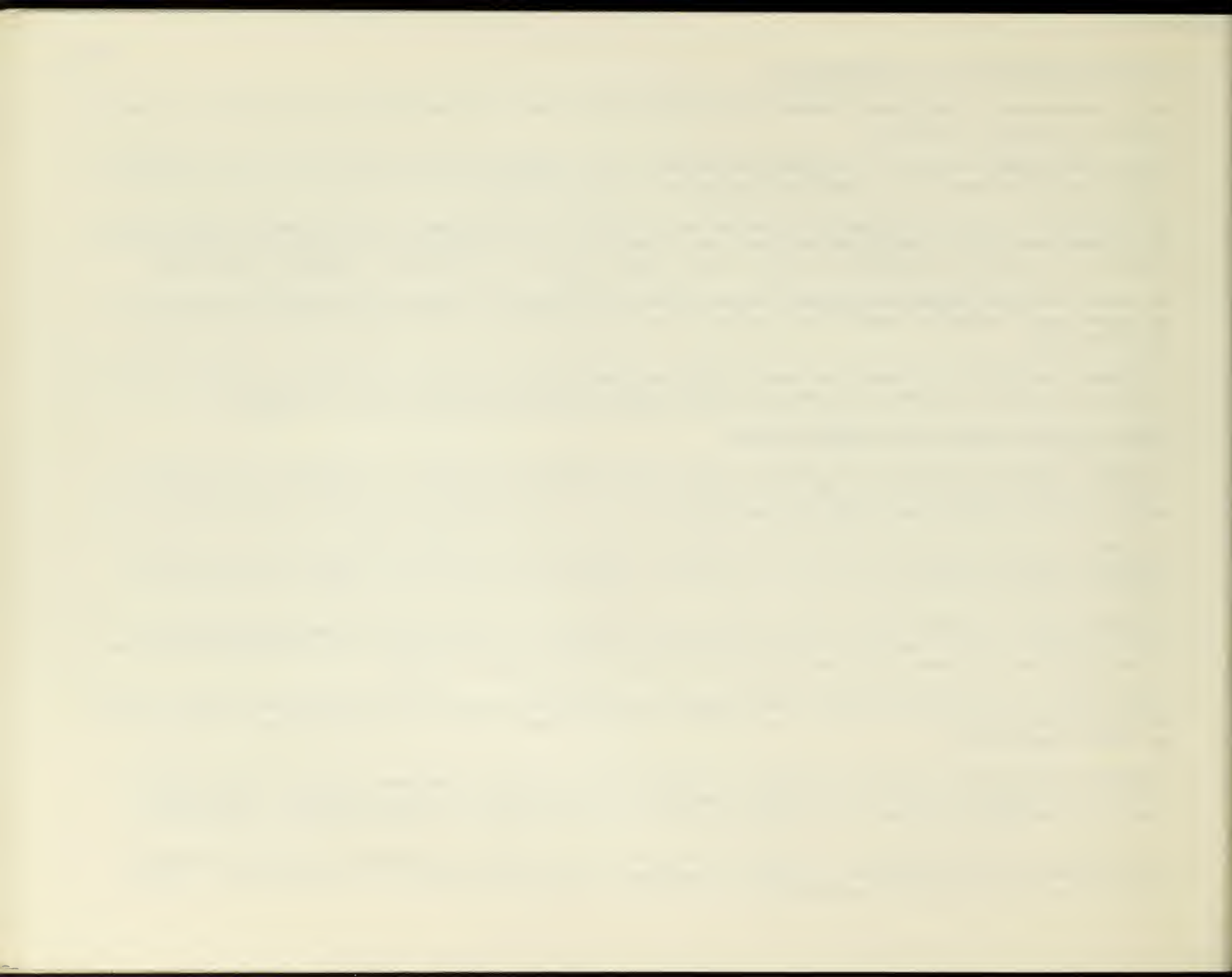


\* Coordinated Transportation System Policies

- The 3C (Comprehensive, Continuing, Cooperative) Transportation Planning Process should be utilized for all transportation planning in the region.
- Citizen participation should be included at all stages of the transportation planning process so that recommendations can be reflective of local needs and responsive to citizens desires.
- The planning and on-going development of transportation facilities and services in the LPV Region should continue to be coordinated with the adjoining Regional Planning Agencies in the Commonwealth of Massachusetts (Berkshire, Franklin, and Central Massachusetts) and the Capitol Region Council of Governments in Hartford, Connecticut.
- All Federal and State funding assistance for the planning and financing of transportation facilities and services in the LPV Region should be sought if the funding is for projects and programs consistent with regional goals and objectives.
- A rational distribution of Federal and State funding assistance for transportation facilities and services that will aid in achieving regional goals should be sought among the cities and towns of the LPV Region.

\* Energy Efficient Transportation System Policies:

- Previously programmed transportation facility construction improvements should be re-evaluated in the light of changing regional transportation needs and priorities and long-range considerations before including such projects in the periodically updated Transportation Plan.
- All potential low or non-capital programs and projects to improve the efficiency and effectiveness of existing facilities should be explored prior to constructing new transportation facilities or carrying out major reconstruction of existing facilities.
- Provision for the unforeseen and emergency needs of area communities for transportation improvements should be met by allocating a minor portion of available funding as a reserve for that purpose. The principal supply line to many LPV area rural communities can be broken by the loss of a bridge or roadway.
- Greater use of energy-efficient transit and paratransit vehicles for accessibility to the region's major activity centers should be promoted by giving higher priority to public expenditures for transit development instead of new highway construction.
- Peripheral parking areas near major LPV Region activity centers served by coordinated transit service should be promoted to encourage efficient use of roadway space and conservation of fuel energy resources. Park-&-Ride lots on the interstates and major state highways in the region could assist an express transit services system.
- The LPV Region's public and private organizations and institutions should be encouraged to assist in achieving the Transportation Plan objectives by providing preferential parking and/or financial inducements for carpools, vanpools, and non-auto modes of transportation.



- Staggered and/or flexible work hours by major employers in the region should be encouraged to relieve the volume of rush hour commuting trips.
- Public transit service should be incorporated in the planning and design of all new residential, commercial, and industrial development projects in the region.
- Increased pedestrian movement in place of vehicular travel should be encouraged in urban areas by coordinating and integrating parking provided within and around major activity centers with improved pedestrian walkways, malls, and other movement systems.

\* Environmentally Sound Transportation System Policies

It should be insured that the operation of transportation facilities and services in the LPV Region conform with appropriate Federal and State requirements and standards relative to air and water pollution control and abatement.

- The unnecessary construction of transportation facilities or provision of transportation services in the flood plains should be prohibited. Where such construction and/or operation is necessitated, flood hazards should be taken into account in the planning for, or design of, such facilities or services. This policy should also apply to transportation facilities or services which would generate or support other land use facilities or services in the flood plains.
- Aesthetic aspects and area compatibility should be considered in the design and siting of new or modified transportation facilities, including: signs, lighting, and other "street furniture".
- Transportation projects that enhance environmental quality in the LPV Region should be encouraged if they are not in conflict with other state regional goals.

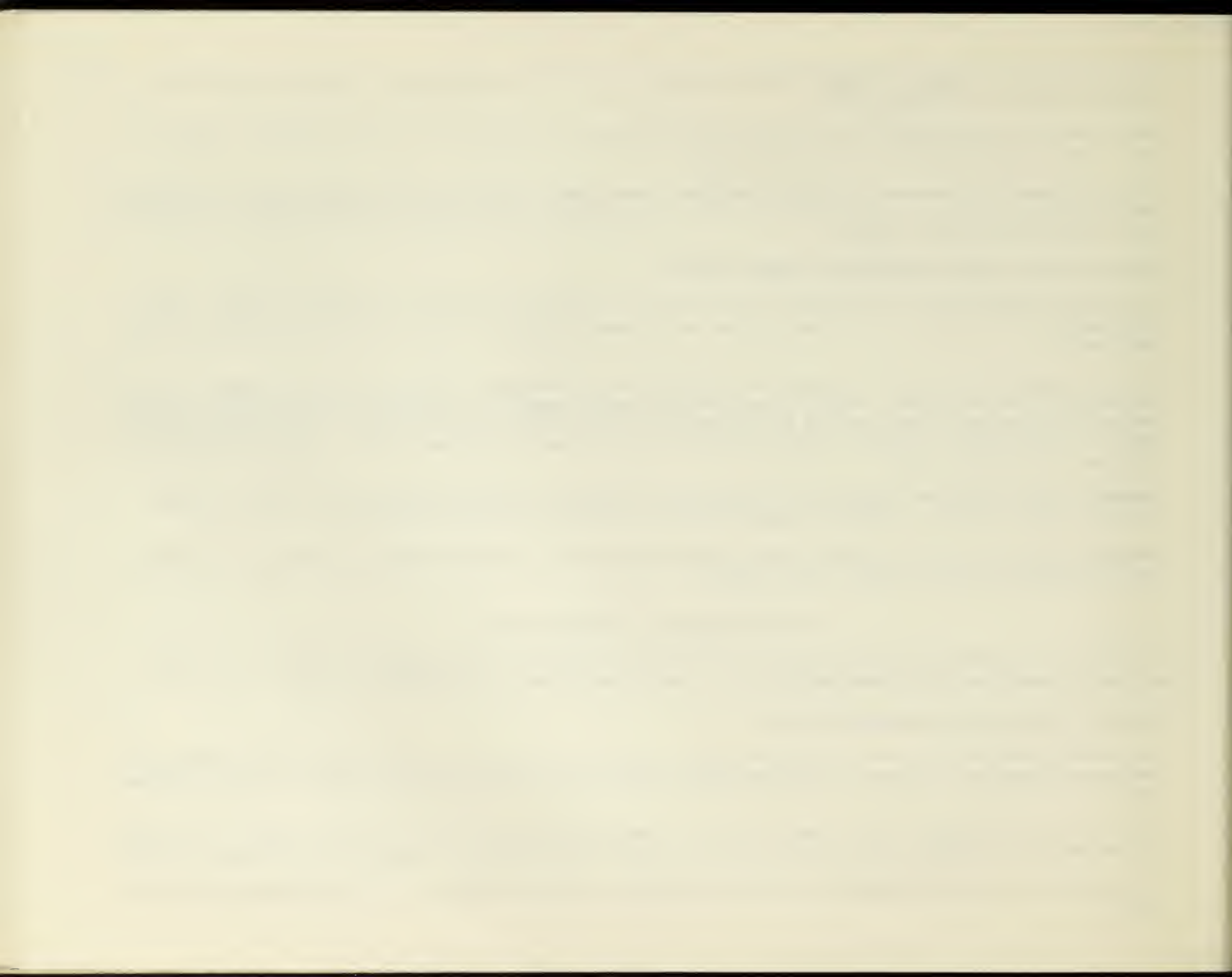
LRE Transportation Plan Objectives

The following Transportation Plan objectives of the LPV Transportation Plan have been developed in accordance with the previously set forth goals and policies to which the following objectives are keyed:

Multimodal Transportation System Objectives:

- Development of multimodal passenger transportation facilities in the region's urban areas which connect with and serve commercial, industrial, and high-density residential, as well as urban special activity and cultural centers.
- Preservation of the region's rail freight lines and improvement of the region's rail links with other sections of the region and national rail system to supplement and coordinate with the region's motor freight services.
- Development of a regionwide system of bikeways and bicycle parking facilities to supplement motorized commuter modes.







- Expansion and development of safe and attractive pedestrian walkway systems in major urban centers.
- Continued development of accessible transportation facilities and services for special population groups in the region including: the poor, the young, the elderly, and the handicapped.
- Expansion of the region's airports for growing air passenger and air freight operations.
- Continued upgrading of the region's bus and rail transit service to provide an alternative to dependence on private transportation.

#### Coordinated Transportation System Objectives:

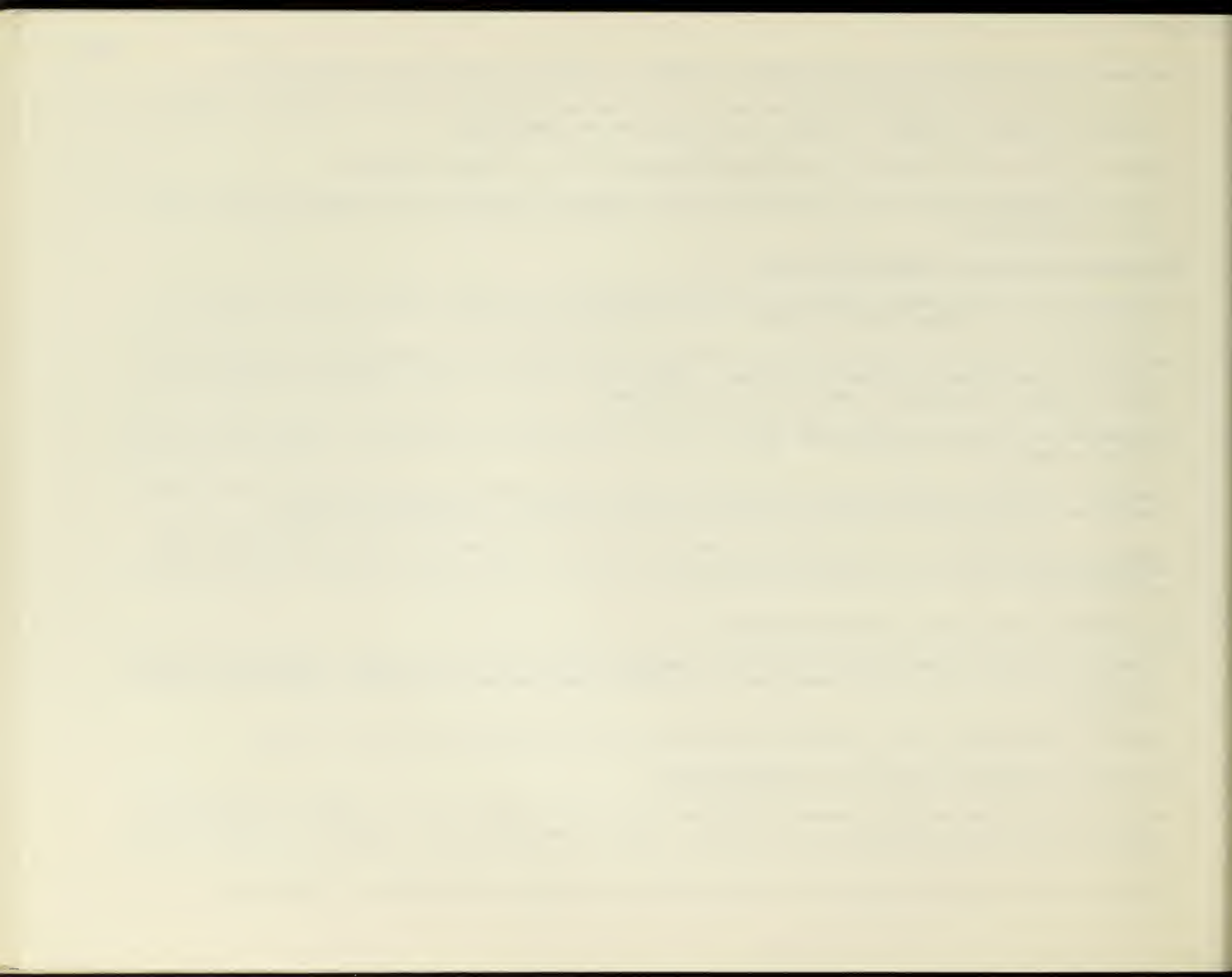
- Development of a rural roadway system with its primary emphasis on providing access for rural residents to rural town centers, regional transit service, and the region's urban areas.
- Avoidance or elimination of conflict between developed or proposed, regional, transportation facilities and the present or proposed uses of adjacent land areas. Protection of either of these from adverse impacts from a sudden or gradual development of the other is also required.
- Development of a region-wide/state-wide system of travel and transportation system and transportation terminal information signs.
- Continued development of operationally integrated transportation services and programs for all of the region's population. This integration should include route layout, schedules, and transfer facilities.
- Design or re-development of local streets in urban areas and rural town centers planned, constructed, and maintained to provide access to adjacent property while limiting or discouraging through traffic in residential neighborhoods.

#### Energy-Efficient Transportation System Objectives

- Minimize the amount of energy consumed per unit of people or goods moved in the region. Average vehicle miles traveled and average daily traffic reductions can be realized by increased people and/or goods being carried per vehicle.
- Maximize the utilization rate of existing transportation facilities before investing in new ones.

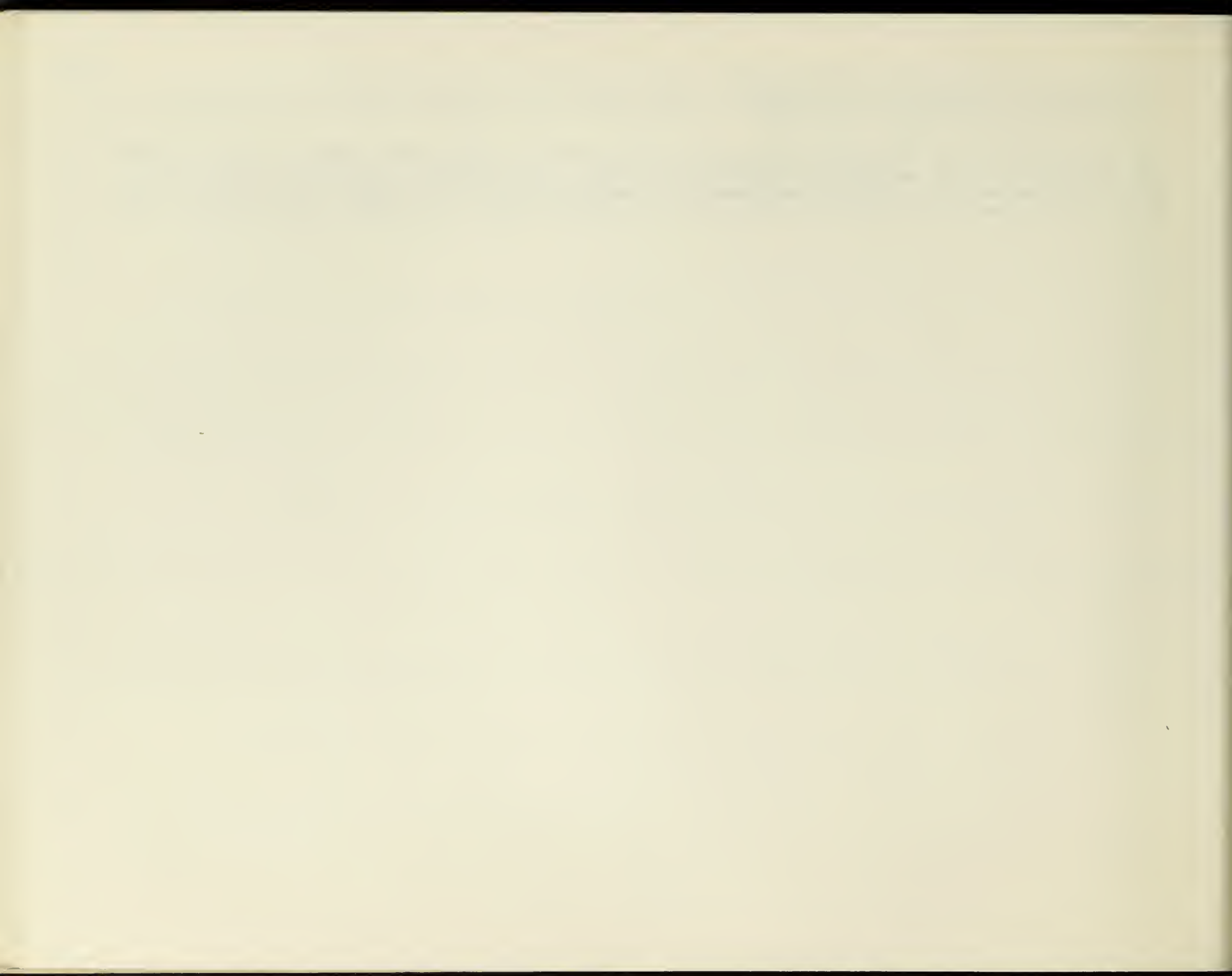
#### Environmental Soundness Transportation System Objectives

- Minimize potential environmental damage, particularly adverse air quality and noise impacts on adjacent land areas by new or existing transportation facilities, including the modification or expansion of existing facilities.
- Adoption of more restrictive billboard and sign controls for commercial and industrial facilities.



- Development of a regional and local systems of scenic routes particularly for promotion of the region's significant tourist industry and economy.

The next sections of the Transportation Plan are the TSM and LRE Plan Process and Programs. In these Sections, the transportation goals, and policies and objectives for the region that have been detailed in this section will be incorporated into the project development and selection process for the region. This process, in turn, will yield the specific Transportation Plan, short and long-range projects and programs for the region.



## THE TRANSPORTATION SYSTEMS MANAGEMENT ELEMENT

Summary of the TSM Planning Process

The TSM planning process began with a compilation of all regional transportation goals, policies, and objectives. This information, in conjunction with other data to be described later in this report, was used as a basis for decision-making during the TSM planning process. Federal TSM regulations, guidelines, and policies were reviewed in order to ensure that planning activities carried out under the current TSME are in compliance.

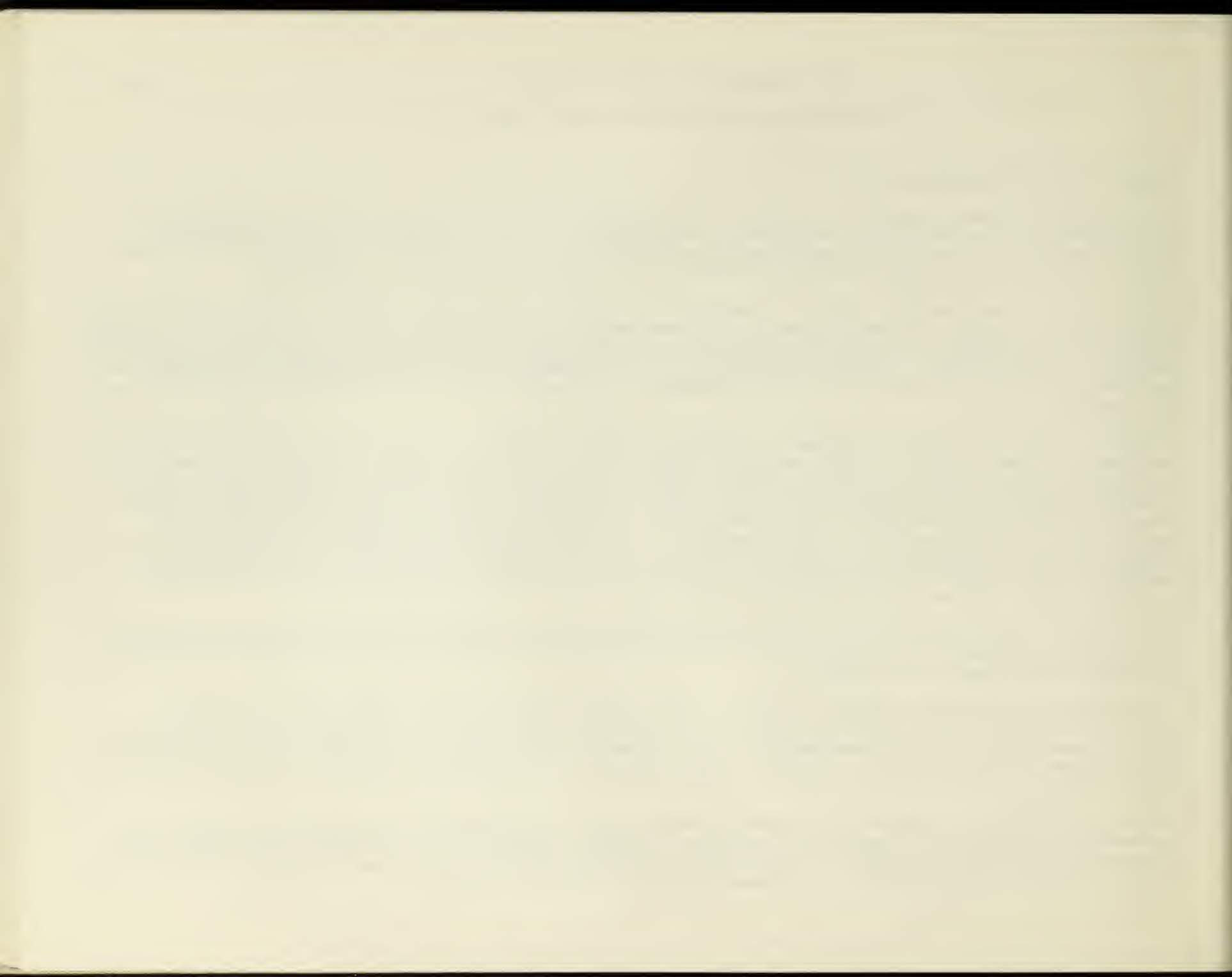
Three tasks which required input during the preparation of the plan were: identification of regional transportation problems, prioritization of these problems, and the development of potential solutions. Parties which could provide input into these activities include the various municipalities within the region, the PVTA, the Joint Transportation Committee (JTC), the Bureau of Transportation Planning and Development (BTP&D) of the Massachusetts Department of Public Works (MDPW), the Executive Office of Transportation and Construction (EOTC), and other concerned agencies and officials.

In order to obtain this input in an orderly and efficient manner, an Ad Hoc Task Force of the Joint Transportation Committee was formed. On the one hand, the size of this group was limited in order to facilitate maximum efficiency in the production of the plan. On the other hand, members were chosen in an attempt to obtain a broad spectrum of pertinent expertise and viewpoints within this small, working group. Hence the Task Force members included a member of the JTC from South Hadley, a member of the JTC from Westfield, the City Engineer from Holyoke, the Traffic Engineer from Springfield (or his representative), a representative of the BTP&D, a representative of the Chicopee planning department, and a representative of the PVTA, with LPVRPC transportation staff serving in a support capacity. This Task Force has provided valuable input necessary to carry out the three tasks described previously in this section, and to prepare the current TSME.

The Task Force activities have culminated in the production of an initial series of proposed solutions to regional transportation problems which had been given a high priority by the Task Force. Profiles of all of these proposed solutions are presented in this Section.

In each profile are sections covering: the name of the proposed program; the problem(s) which the program is addressing; a listing of the specific objectives of the program; a fairly detailed description of the proposal; a concise summary of the actual recommendations; a list of the anticipated benefits resulting from the implementation of the program; an identification of potential funding sources; the proposed timetable for the program; and current program status.

Several tasks which will be addressed in upcoming months include the development of: detailed project action plans; implementation structures and coordination mechanisms; measures of effectiveness and monitoring techniques; and a general timetable for the completion of these tasks for those projects which have been selected. These activities will be discussed further following the presentation of the TSM project profiles.





TSM-Related Activities

The preceding sections have attempted to define the Transportation Systems Management planning concept as well as to provide background information to describe the Lower Pioneer Valley Region and its existing transportation resources. This section consists of a summary of the status of actions and recommendation which have been presented in past and current planning efforts that can be considered TSM-related activities.

Based on its status, each activity has been assigned to one of the following categories: previously implemented/ currently being implemented; programmed for implementation (primarily those included in the Region's current Transportation Improvement Program); or recommended for possible future implementation. In addition, each activity is classified into one of four types of TSM actions identified in the FHWA/UMTA regulations governing TSM planning. The four categories are: (a) Actions to ensure the efficient use of existing road space; (b) Actions to reduce vehicle use in congested areas; (c) Actions to improve transit service; and (d) Actions to increase internal transit management efficiency.

This comprehensive summary of the status of TSM-related planning activities will illustrate where past and current planning efforts have focused and will provide a useful guide for future TSM planning. This information was utilized by the Task Force and staff in the preparation of the 1980 TSME.

A. ACTIONS TO ENSURE THE EFFICIENT USE OF EXISTING ROAD SPACE

1. Traffic operations improvements to manage and control the flow of motor vehicles including:

- Channelization of traffic
- One-way streets
- Better signalization and progressive timing of traffic signals
- Metering access to freeways
- Computerized traffic control
- Reversible traffic lanes
- Other traffic engineering improvements

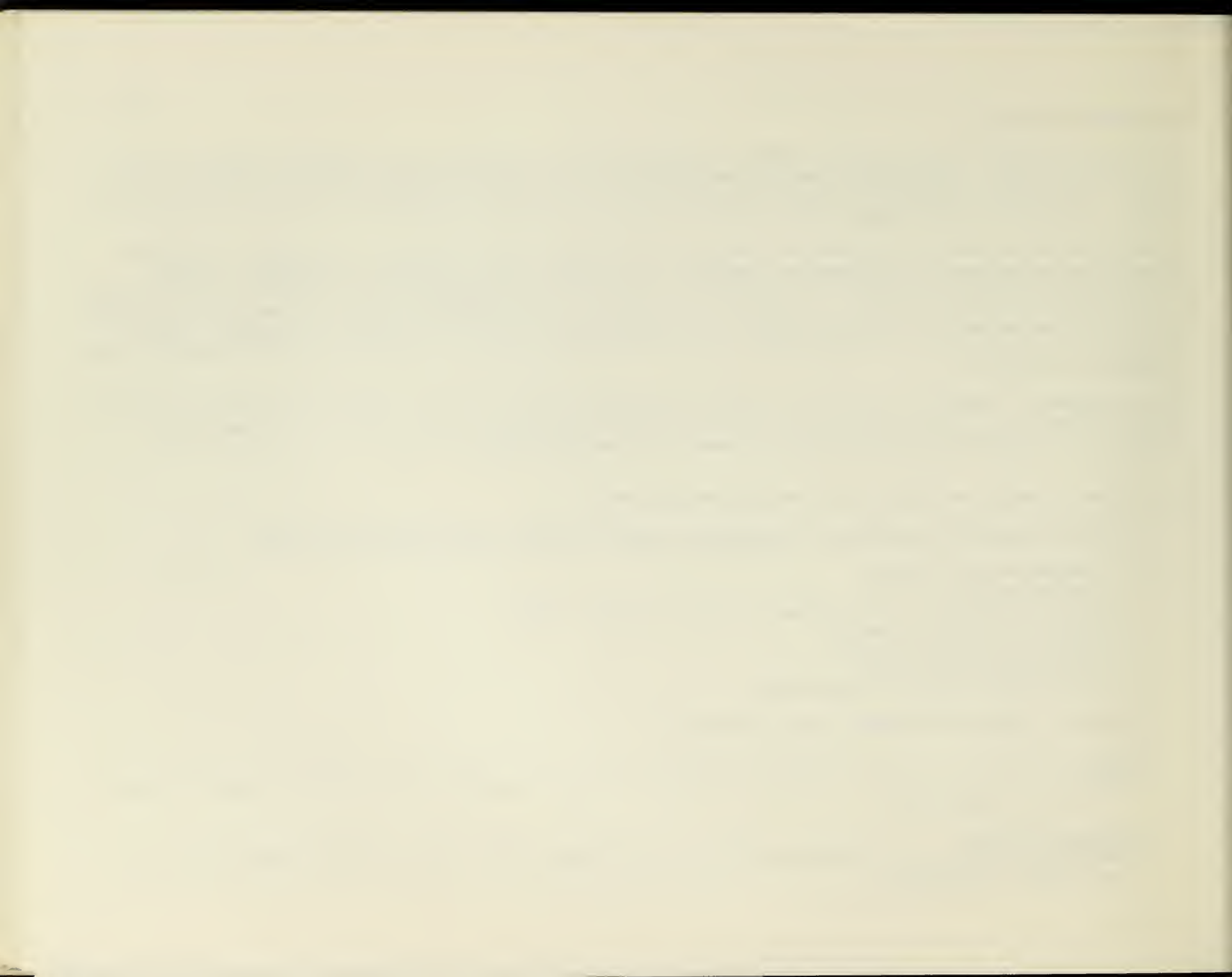
PREVIOUSLY IMPLEMENTED/CURRENTLY BEING IMPLEMENTED

Amherst

- Reconstruction of portions of sidewalks in Amherst Center area, including making the town center accessible to persons in wheelchairs

Easthampton/Holyoke

- Reconstruction of Route 5 from Holyoke to north of the Manhan River, including widening and related safety and capacity improvements



Holyoke

- Implementation of TOPICS-type improvements at the intersection of Lyman Street and Maple Street

Ludlow

- Implementation of TOPICS-type improvements at two (2) intersections:
  - Intersection of Holyoke Street and West Street
  - Intersection of Chicopee and East Streets

Springfield

- Implementation of TOPICS-type improvements at two (2) intersections:
  - Intersection of Cadwell Drive, Page Boulevard, and Robbins Road
  - Kent Road from Boston Road (Route 20) to Fernbank Road

West Springfield

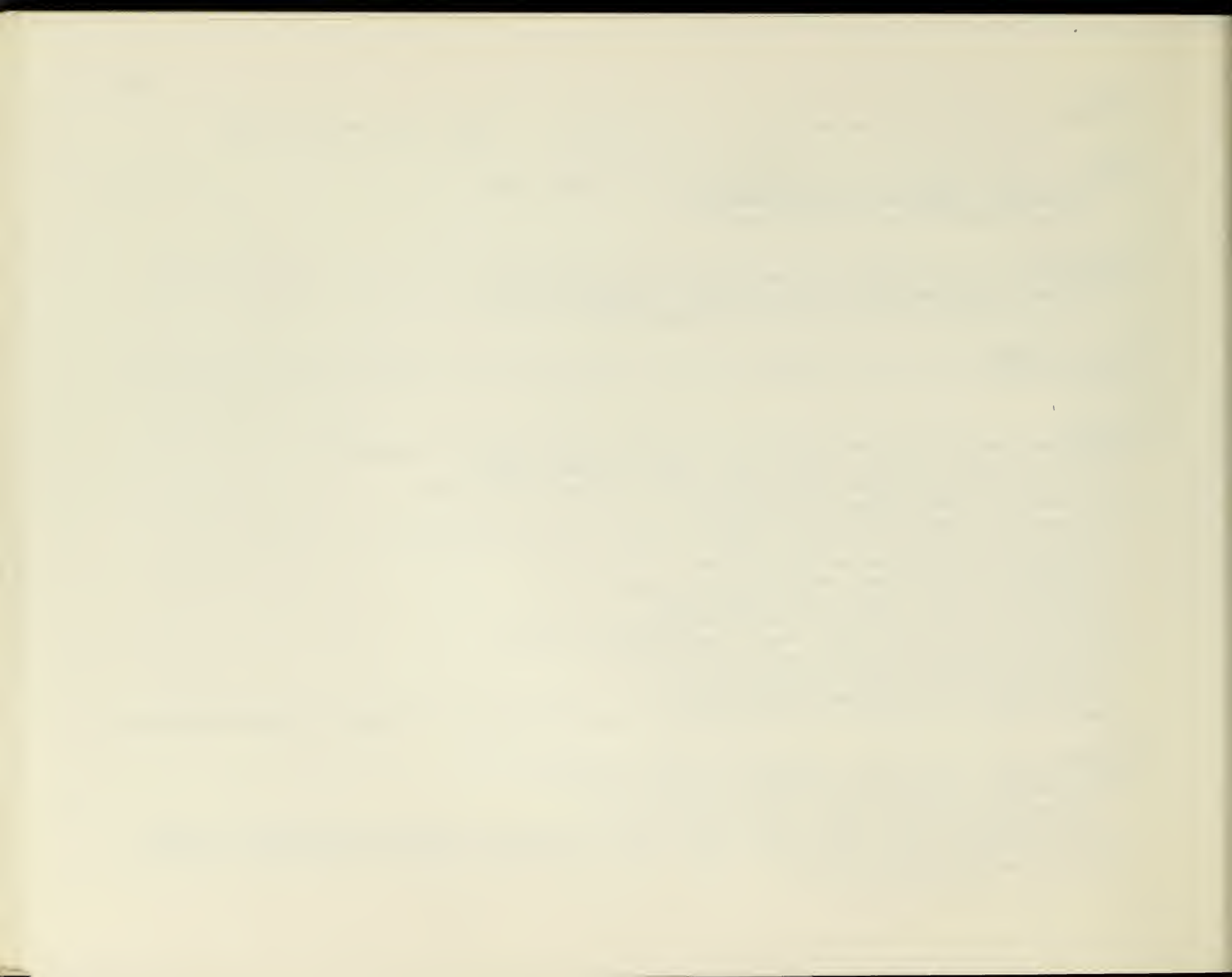
- Implementation of TOPICS-type improvements at the intersection of South Boulevard, Park Street, and River Street

Westfield

- Implementation of TOPICS-type improvements at thirteen (13) locations in Westfield:
  - North Elm Street, Pochassic Street, Union Street, and Union Avenue
  - Intersection of Broad Street, East Silver Street, and West Silver Street
  - Intersection of Court Street and Elm Street
  - Intersection of West Silver Street Pleasant Street, and South Maple Street
  - Intersection of Route 202 and Notch Road
  - Intersection of Elm Street and Meadow Street
  - Intersection of Elm Street, Arnold Street, and Thomas Street
  - Intersection of Court Street and Pleasant Street
  - Intersection of Court Street and Washington Street
  - Main Street, Elm Street, School Street, and Broad Street Circle
  - Franklin Street from Elm Street to Washington Street
  - Intersection of Pearl Street and Pleasant Street
  - Intersection of Elm Street and Orange Street
  - Implementation of a program of safety improvements at the intersection of Route 20 and East Mountain Road

Wilbraham

- Implementation of TOPICS-type improvements at various locations:
  - Intersection of Route 20, Main Street, and Maple Street
  - Intersection of Faculty Street and Springfield Street
  - Basic intersection improvements - minor improvements to twenty-two intersections throughout Wilbraham including minor geometric adjustments, traffic control adjustments, increased turning radii, pedestrian control, and minor channelization



## PROGRAMMED FOR IMPLEMENTATION

Agawam

- Implementation of TOPICS-type improvements at eight (8) locations:
  - Intersection of Main Street, Suffield Street, Springfield Street and Agawam Bridge
  - Intersection of Springfield Street, Walnut Street and Walnut Street Extension
  - Walnut Street Extension
  - Intersection of Suffield Street and Walnut Street
  - Intersection of Springfield Street, North Street, Maple Street and McGrath Terrace (O'Brien's Corner)
  - Intersection of Main and Cooper Streets
  - Intersection of Southwick Street, South West Street and North West Street
  - Intersection of Springfield Street, Southwick Street, North Westfield Street and South Westfield Street (Feeding Hills)

Amherst

- Implementation of TOPICS-type improvements at eight (8) intersections in the Amherst Center area:
  - Intersection of North Pleasant Street and Triangle Street
  - Intersection of North Pleasant Street and Fearing Street
  - Intersection of North Pleasant Street and East Pleasant Street
  - Intersection of South Pleasant Street, Northampton Road, and College Street
  - Intersection of North Pleasant Street, South Pleasant Street, Main Street, and Amity Street
  - Intersection of East Pleasant Street and Triangle Street
  - Intersection of Triangle Street and Main Street
  - Intersection of East Pleasant Street and Chestnut Street

Chicopee

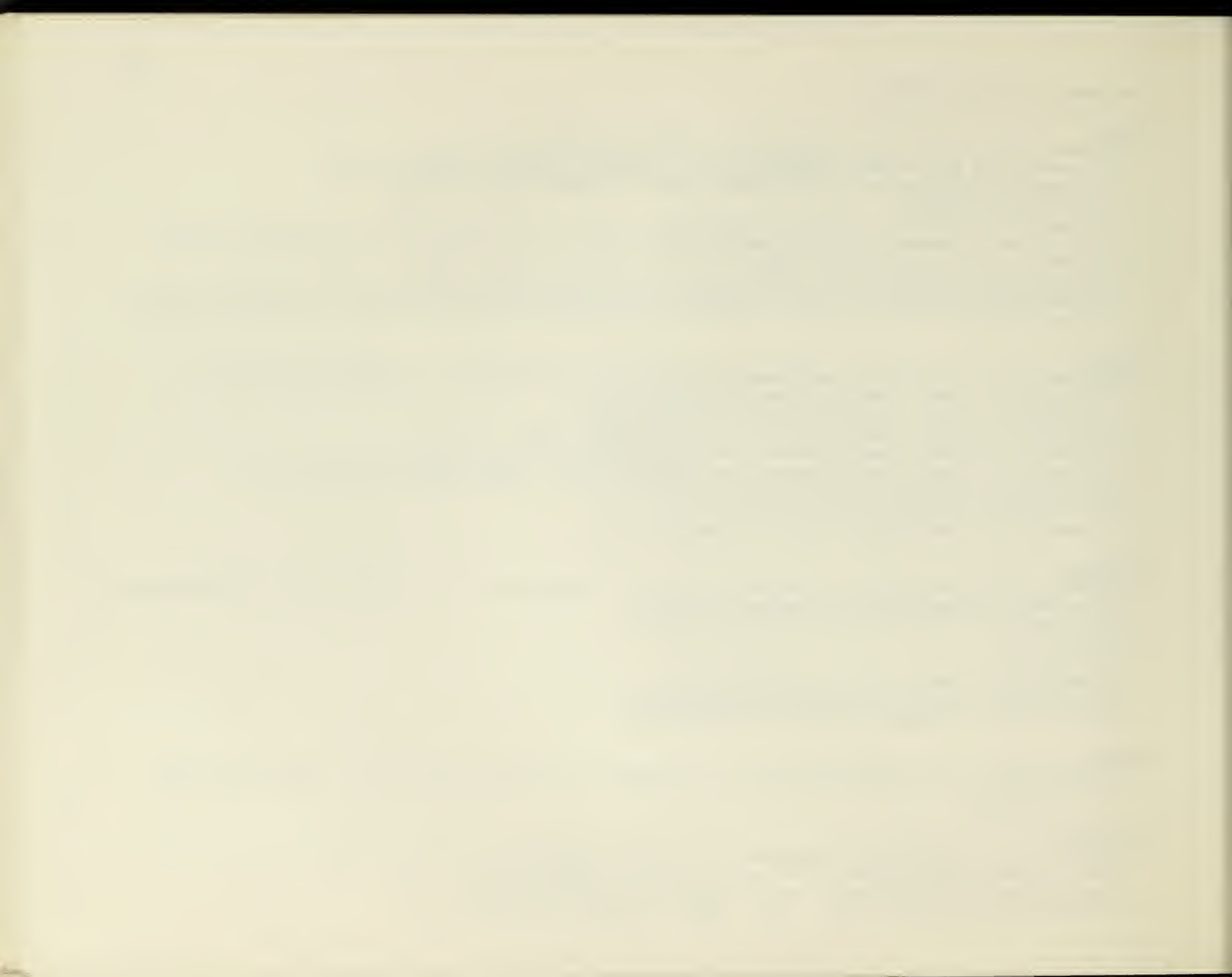
- Implementation of TOPICS-type improvements at seven (7) locations in the Chicopee Center/Market Square area:
  - Front Street, signalization and parking restriction
  - Intersection of Cabot Street and Exchange Street
  - Center Street
  - Cabot Street
  - Intersection of Center Street and Exchange Street
  - Intersection of Springfield Street and Center Street
  - Intersection of Springfield Street and Front Street

Holyoke

- Implementation of TOPICS-type improvements at intersection of Lower Westfield Road, Apremont Way, and Homestead Avenue

Longmeadow

- Implementation of TOPICS-type improvements at nine (9) locations:
  - Seven intersections on Route 5 from Forest Glen Road to Birnie Road
  - Intersection of Williams Street, Laurel Street, and Shaker Road (Route 192)
  - Intersection of Williams Street, Dwight Street, and Chestnut Street





- Intersection of Laurel Street and Converse Street
- Intersection of Williams Street and Bliss Road
- Laurel Street (from Williams Street)
- Intersection of Shaker Road and Hazardville Road
- Intersection of Williams Street, Frank Smith Road, and Redfern Drive
- Minor improvements at miscellaneous intersections-nine intersections require minor improvements including modification of existing traffic signals, placement of stop signs, pavement markings, and signing

#### West Springfield

- Implementation of TOPICS-type improvements at seven (7) locations:
  - Intersection of Westfield Street, Beverly Hills Lower, and Hillcrest Avenue
  - Intersection of Westfield Street and Harwich Road
  - Intersection of Westfield Street, Kings Highway, and Jaret Street
  - Intersection of Westfield Street and West Street
  - Intersection of Westfield Street, Upper Church Street, Summit Street, and Hemlock Street
  - Intersection of Westfield Street, North Boulevard, and South Boulevard
  - Intersection of Memorial Avenue, River Street, and Agawam Bridge

#### RECOMMENDED FOR POSSIBLE FUTURE IMPLEMENTATION

#### Agawam

- Implementation of TOPICS-type improvements at four (4) intersections:
  - Intersection of Springfield Street and Mill Street
  - Intersection of Mill Street and Cooper Street
  - Intersection of Mill Street and Suffield Street
  - Intersection of Cooper Street, Suffield Street and Rowley Street

#### Amherst

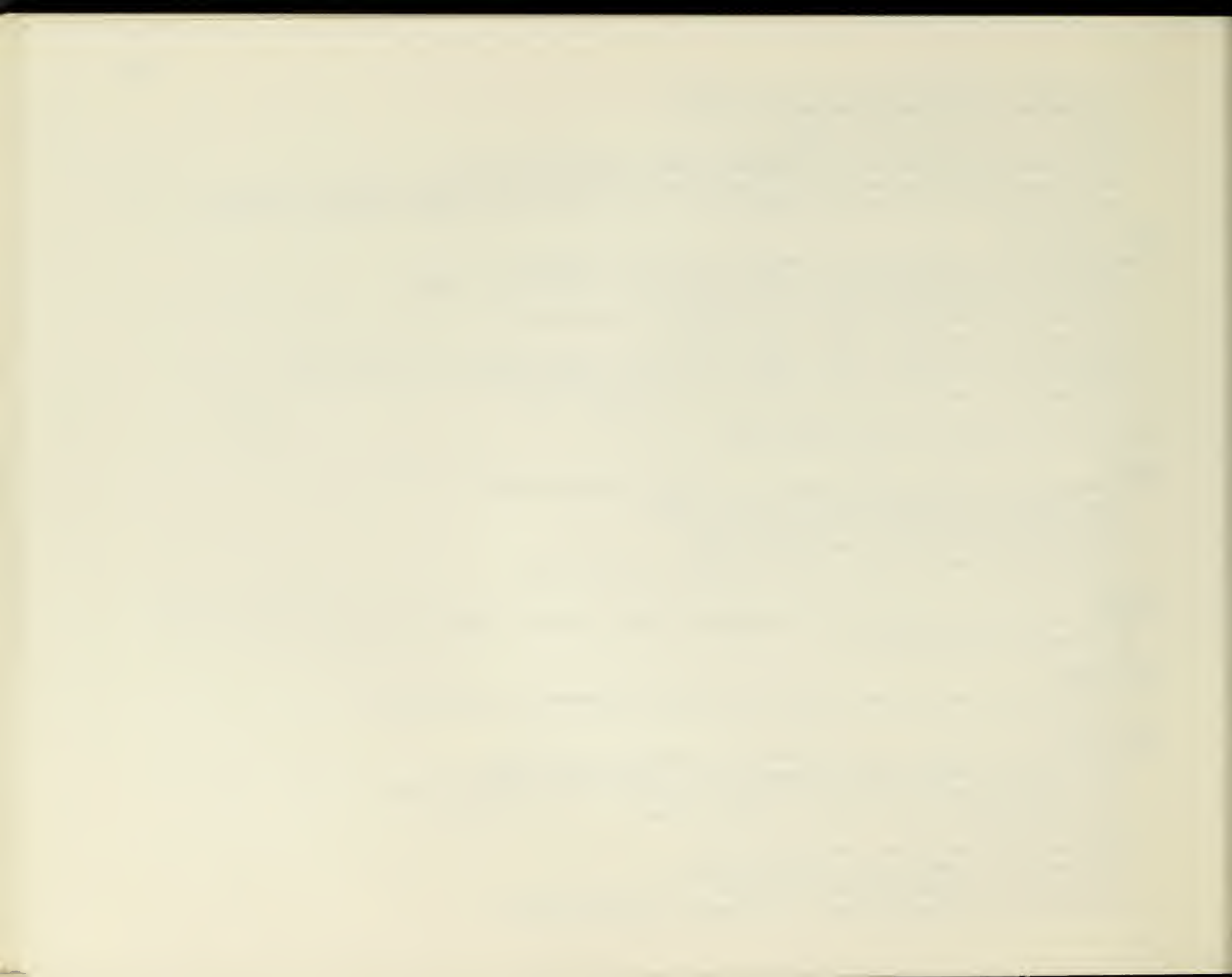
- Modification of the intersection of Massachusetts Avenue and North Pleasant Street (to be carried out by the University of Massachusetts)

#### Palmer/Ware

- Implementation of various traffic safety and capacity improvements along Route 32.

#### South Hadley

- Implementation of TOPICS-type improvements at eleven (11) locations:
  - Intersection of Hadley Street, College Street, and Woodbridge Street
  - Intersection of Lamb Street, Bolton Street, Main Street and South Main Street
  - Intersection of South Main Street and Spring Street
  - Brainerd Street
  - Intersection of Main Street and Bridge Street
  - Intersection of Granby Road and Hillside Avenue
  - Intersection of Granby Road and East Street
  - Intersection of Bardwell Street, Carew Street, and Gaylord Street



- Intersection of Newton Street and Lincoln Street
- Intersection of Main Street and Bardwell Street
- Intersection of South Main Street and Smith Street

#### Springfield

- Implementation of various traffic safety and capacity improvements in the Springfield central business district as part of the Springfield Downtown Plan

#### West Springfield

- Implementation of TOPICS-type improvements at seven (7) locations:
  - Intersection of Union Street and New Bridge Street
  - Intersection of Amostown Road and Piper Road
  - Intersection of Riverdale Street and Elm Street
  - Intersection of Morgan Road and Draig Drive
  - Intersection of Morgan Road and Piper Cross Road
  - Along Westfield Street, Memorial Avenue, and Elm Street
  - Intersection of Prospect Avenue and Birnie Avenue

#### Wilbraham

- Implementation of TOPICS-type improvements at four (4) locations:
  - Intersection of Route 20 and Cottage Avenue
  - Intersection of Stony Hill Road and Tinkham Road
  - Intersection of Stony Hill Road and River Road
  - Intersection of Stony Hill Road and Springfield Street

### A. ACTIONS TO ENSURE THE EFFICIENT USE OF EXISTING ROAD SPACE

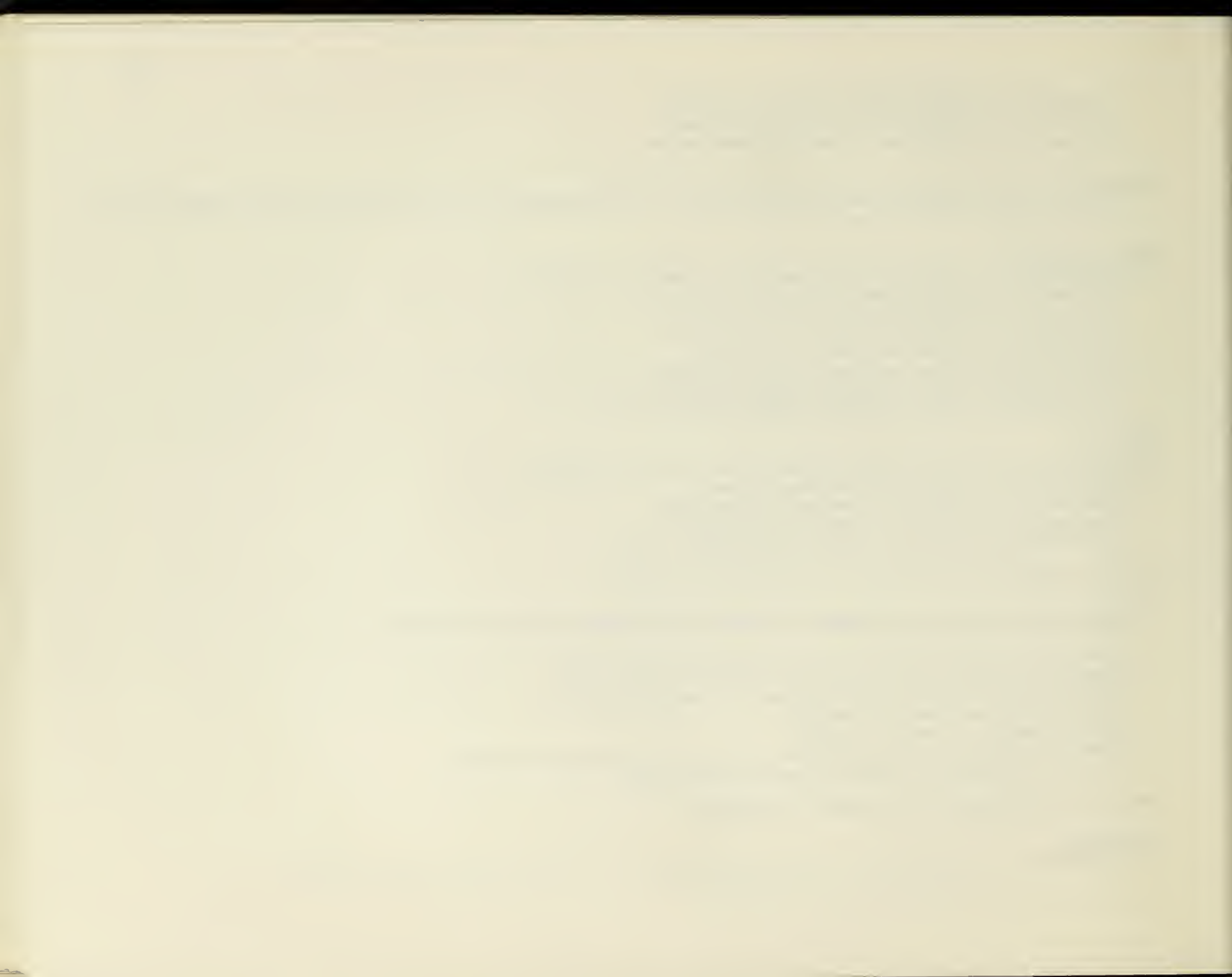
#### 2. Preferential treatment for transit and other high-occupancy vehicles including:

- Reserved or preferential lanes on freeways and city streets
- Exclusive lanes at toll plazas with provisions for non-stop toll collection
- Conversion of selected downtown streets to exclusive bus use
- Exclusive access ramps to freeways
- Bus pre-emption of traffic signals
- Special turning lanes or exemptions of buses from turning restrictions
- Strict enforcement of reserved transit rights-of-way

#### PREVIOUSLY IMPLEMENTED/BEING CURRENTLY IMPLEMENTED

#### Springfield

- Development of a contraflow bus lane on Locust Street between Belmont and Dickinson Streets



## PROGRAMMED FOR IMPLEMENTATION

Springfield

- Development of a four block transit/pedestrian mall on Main Street in downtown Springfield between Court and Taylor Streets

## RECOMMENDED FOR POSSIBLE FUTURE IMPLEMENTATION

None

## A. ACTIONS TO ENSURE THE EFFICIENT USE OF EXISTING ROAD SPACE

## 3. Appropriate provisions for pedestrians and bicycles such as:

- Bicycle paths and exclusive lanes
- Pedestrian malls and other means of separating pedestrian vehicular traffic
- Secure and convenient storage areas for bicycles
- Other bicycle facilities

## PREVIOUSLY IMPLEMENTED/CURRENTLY BEING IMPLEMENTED

- Walk phases on traffic signals located at numerous intersections throughout the Region

Amherst

- Construct portions of pedestrian circulation system for proposed Boltwalk redevelopment project located in Amherst Town Center
- Several segments of Amherst Bikeway Plan constructed

## PROGRAMMED FOR IMPLEMENTATION

Agawam

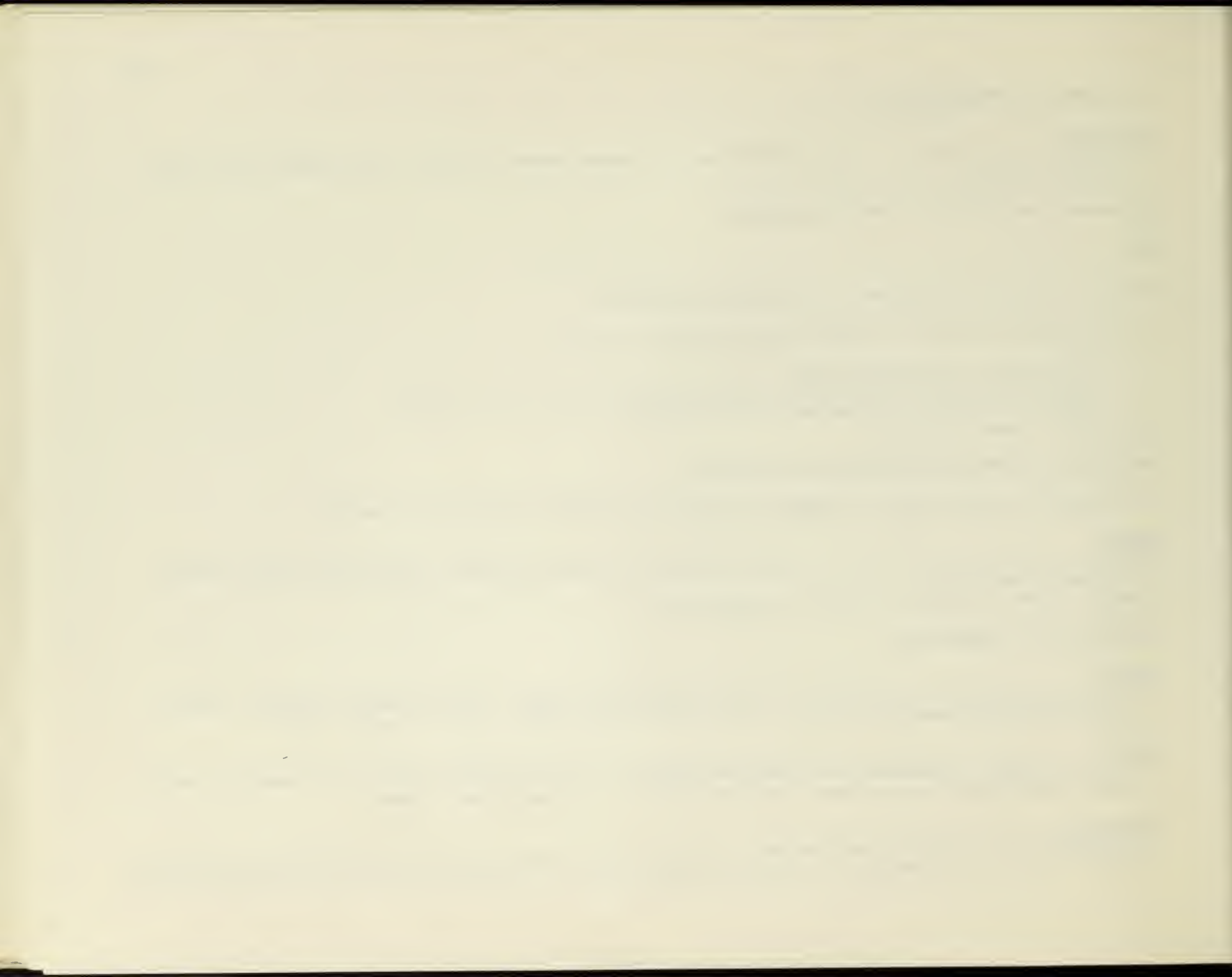
- Construct Agawam Bike Path Project, a 2.0 mile recreational bikeway serving several residential neighborhoods abutting the Connecticut River floodplain (River Road-School Street to Chestnut Lane)

Amherst

- Construct Lincoln Bypass/West Street Bikepath Project, a 2.3 mile commuter/recreational bikeway to interconnect South Amherst with the Town Center and University of Massachusetts campus

Northampton

- Construct the Look Park Bike Path Project, a 2.6 mile commuter/recreational bikeway providing an east-west bikeway corridor interconnecting the downtown business area with Look Park, a major local/regional facility





South Hadley

- Construction of a sidewalk on Brainerd Street (as part of an upgrading of the entire street)

## RECOMMENDED FOR POSSIBLE FUTURE IMPLEMENTATION

Chicopee/West Springfield

- Chicopee/West Springfield Ashley Avenue Bridge/Bikeway Recycling Project

Springfield

- Construction of pedestrian and bicycle circulation system as a component of proposed Riverfront Park development project adjacent to the Connecticut River

## A. ACTIONS TO ENSURE THE EFFICIENT USE OF EXISTING ROAD SPACE

## 4. Management and control of parking through:

- Elimination of on-street parking, especially during peak periods
- Regulation of the number and price of public and private parking spaces
- Favoring parking by short-term users over all day commuters
- Provision of fringe and transportation corridor parking to facilitate transfer to transit and other high-occupancy vehicles
- Strict enforcement of parking restrictions

## PREVIOUSLY IMPLEMENTED/CURRENTLY BEING IMPLEMENTED

Springfield

- Implementation of parking lot on fringe of downtown business district coupled with regular PVRTA downtown transit service to improve flow on downtown street system

## PROGRAMMED FOR IMPLEMENTATION

Chicopee

- Elimination of angle parking in Market Square and City Hall areas

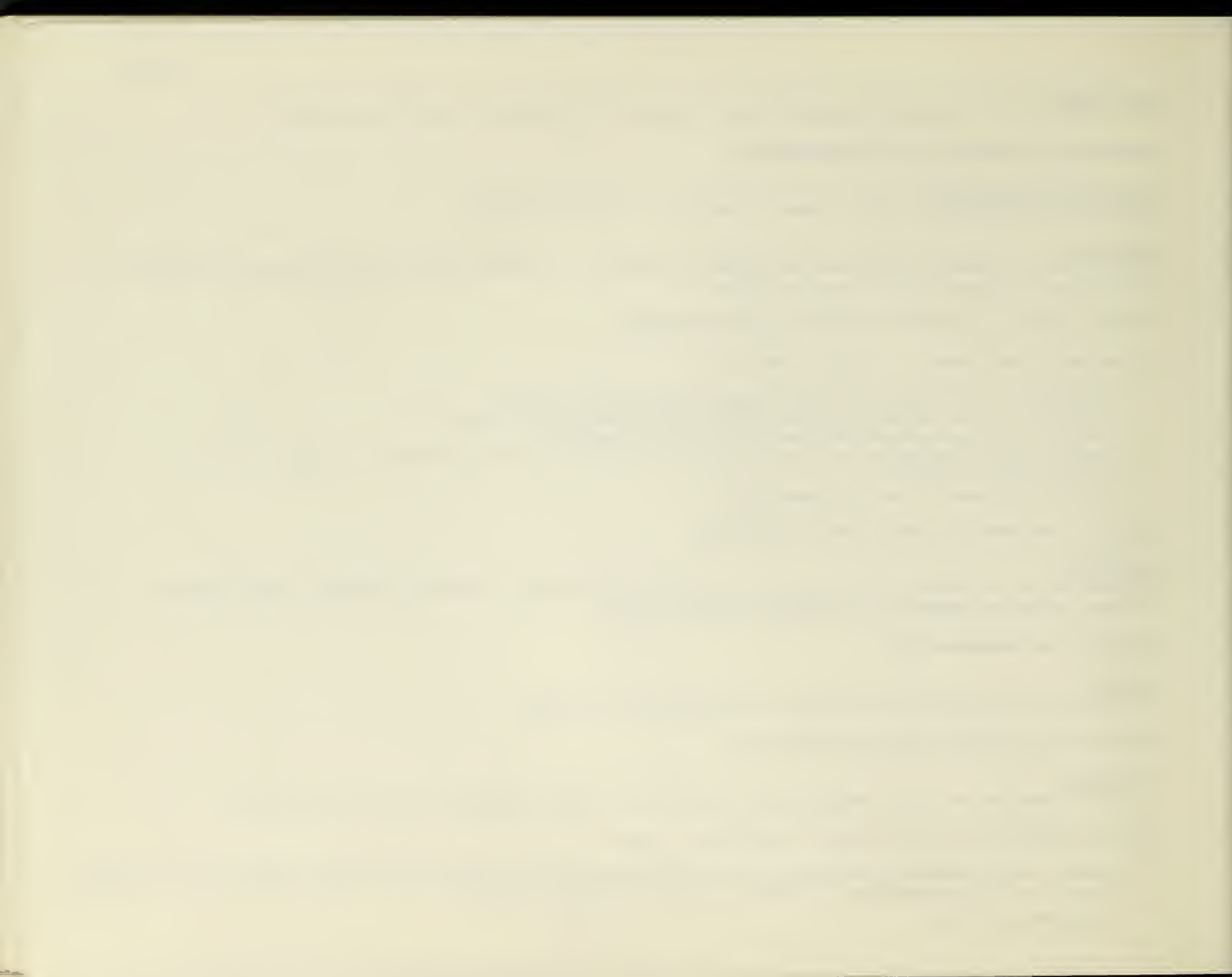
## RECOMMENDED FOR POSSIBLE FUTURE IMPLEMENTATION

Springfield

- Extended provision for short-term parking for metered and signed curb space in the downtown area

## A. ACTIONS TO ENSURE THE EFFICIENT USE OF EXISTING ROAD SPACE

5. Changes in work schedules, fare structures, and automobile tolls to reduce peak period travel and to encourage off-peak use of transportation facilities and transit services such as:
  - Staggered work hours



- Flexible work hours
- Reduced transit fares for off-peak transit users
- Increased peak-hour commuter tolls on bridges and access routes to urban centers

#### PREVIOUSLY IMPLEMENTED/CURRENTLY BEING IMPLEMENTED

- Introduction of flexible time arrangement at Mass Mutual Life Insurance (2500 employees). Several other smaller employers in the region have also introduced flexible hours programs (including LPVRPC).

#### Springfield

- Institution of free Sunday shopper service during the Christmas shopping season on a major transit route in Springfield (Route 101, Sumner-Allen)

#### B. ACTIONS TO REDUCE VEHICLE USE IN CONGESTED AREAS THROUGH:

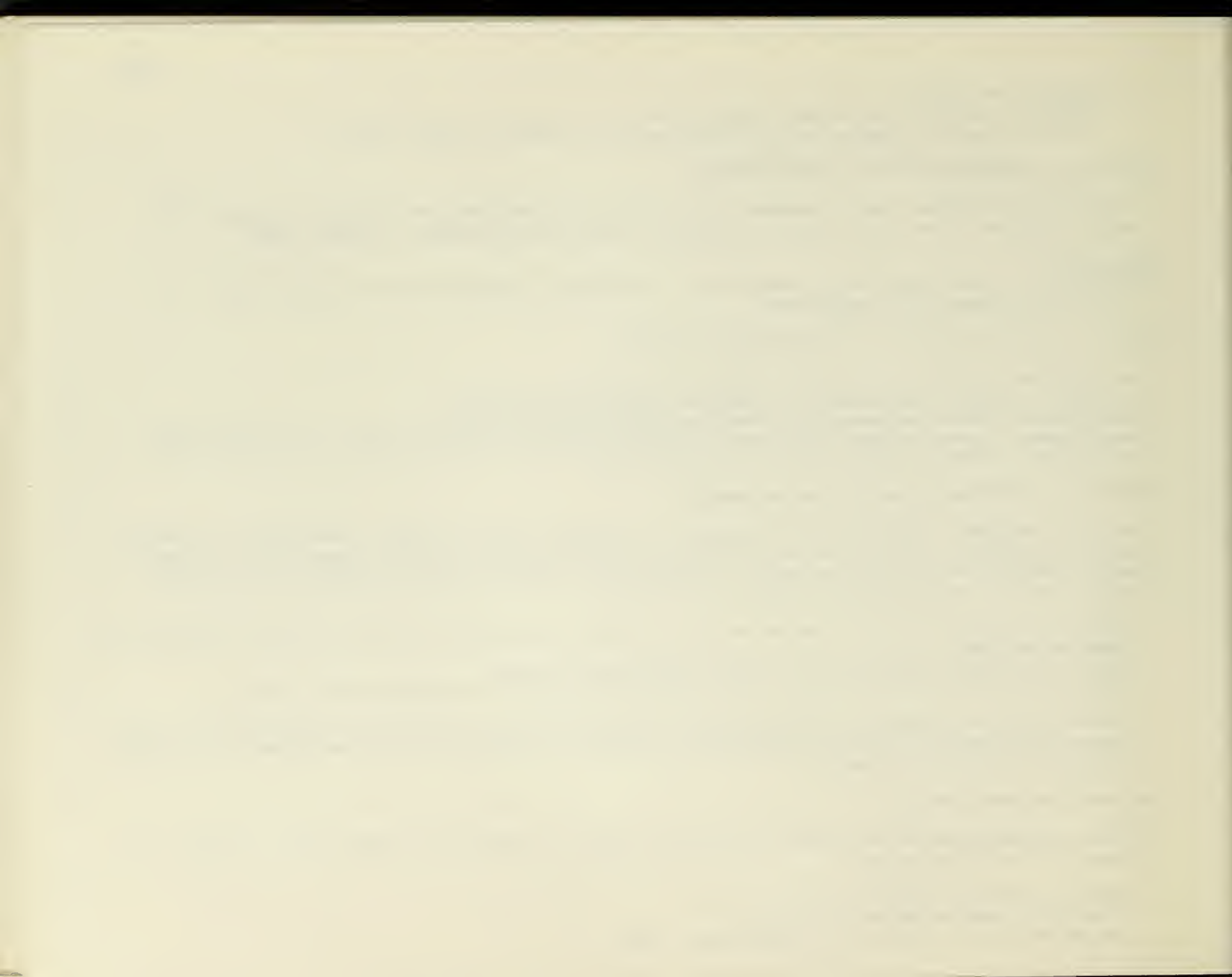
- Encouragement of carpooling and other forms of ride sharing
- Diversion, exclusion, and metering of automobile access to specific areas
- Area licenses, parking surcharges and other forms of congestion pricing
- Establishment of car-free zones and closure of selected streets to vehicular traffic or to street traffic
- Restrictions on downtown truck delivery during peak hours

#### PREVIOUSLY IMPLEMENTED/CURRENTLY BEING IMPLEMENTED

- Continued development and promotion of "Masspool" - a statewide program designed to encourage the formation and use of carpools, vanpools, and public transit by commuters to major employers (sponsored by the Massachusetts Executive Office of Transportation and Construction and Massachusetts Department of Public Works). Some of its major accomplishments include:
  - More than 100 firms in the LPV region, as well as Franklin and Berkshire Counties, have been contacted about Masspool program
  - Follow-up meetings were held with all firms that expressed interest
  - Questionnaires were distributed and Locator Boards put in place as the programs moved forward
- A community-based ridesharing program has been established in Amherst which will go into operation in 1979
- Several minor street closings and abandonments in downtown Springfield to permit development or commercial projects and pedestrian walkways

#### PROGRAMMED FOR IMPLEMENTATION

- Continuation and expansion of statewide and regional efforts to organize and promote carpool, vanpool, and transit utilization including:
  - Meetings with major employers are continuing
  - Radio and television ads are continuing
  - The manual file for "call-ins" is increasing in number



## RECOMMENDED FOR POSSIBLE FUTURE IMPLEMENTATION

- Coordination of Masspool program with major Connecticut employers located in northern Connecticut which have substantial numbers of Massachusetts residents traveling to them on a daily basis for work and creation of additional vanpool arrangements through Masspool Inc. with major area employers

Springfield

- Prohibit truck deliveries during the afternoon peak travel period in Springfield CBD
- Implement Outer Belt Bike Path Project, a 0.7 mile commuter/recreational bikeway which would utilize portions of the right-of-way of the Outer Belt Highway (Route 21) to interconnect the Sixteen Acre residential neighborhood with the Talmadge Elementary School and the Kiley Junior High School

Northampton/Amherst/South Hadley

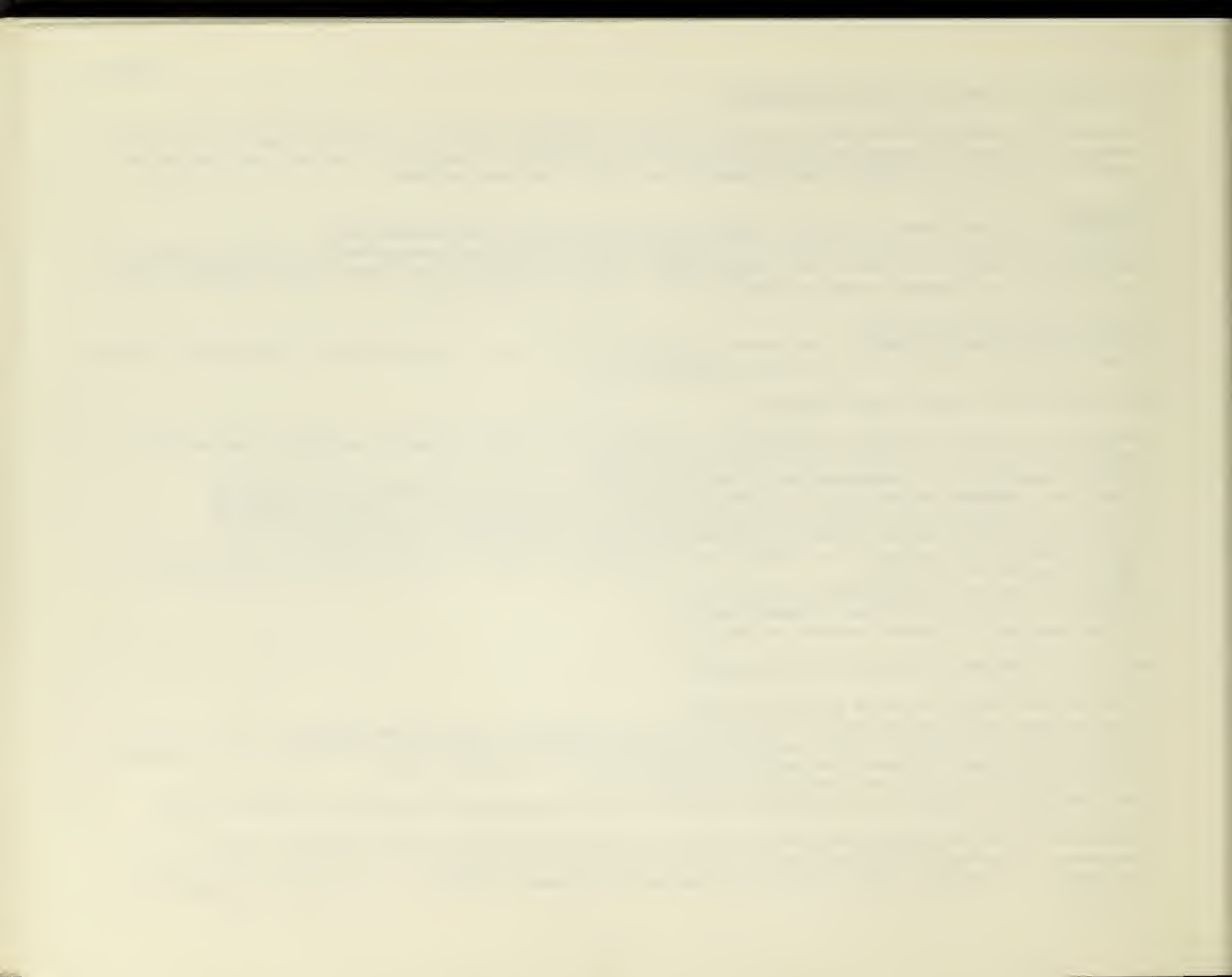
- Five College Bikeway proposal to link major colleges and universities in the region with interconnected bikeway system utilizing existing roads and special right-of-way

## C. ACTIONS TO IMPROVE TRANSIT SERVICE THROUGH:

- Provision of better collection, distribution, and internal circulation services (including route deviation and demand-responsive services) within low density areas
- Greater flexibility and responsiveness in routing, scheduling, and dispatching of transit vehicles
- Provision of express bus services in coordination with local collection and distribution services
- Provision of extensive park-n-ride services from fringe and transportation corridor parking areas
- Provision of shuttle transit services from CBD fringe areas to downtown activity centers
- Encouragement of jitneys and other flexible paratransit services and their integration in the metropolitan public transportation system
- Simplified fare collection systems and policies
- Provision of shelters and other passenger amenities
- Better passenger information systems and services

## PREVIOUSLY IMPLEMENTED/CURRENTLY BEING IMPLEMENTED

- PVRTA obtained radios for buses and base stations
- A major restructuring of the routes and schedules for the Holyoke Street Railway Company
- Modifications to the Western Mass. Bus Lines routes and schedules including through routing to Williamsburg
- Minor schedule modifications to Longueil's Longmeadow and East Longmeadow routes
- Westfield paratransit proposal (and subsequent refinements)
- Assistance in development and refinement of WMBL/Five College consolidation proposal, as well as in the implementation
- Chicopee: analysis of several new route proposals and expansion of time of service into the evening
- Development of proposal for King Street shuttle bus service in Northampton
- Analysis of new transit services: Northampton/Eastampton/Holyoke (in service on trial basis), Springfield Crosstown

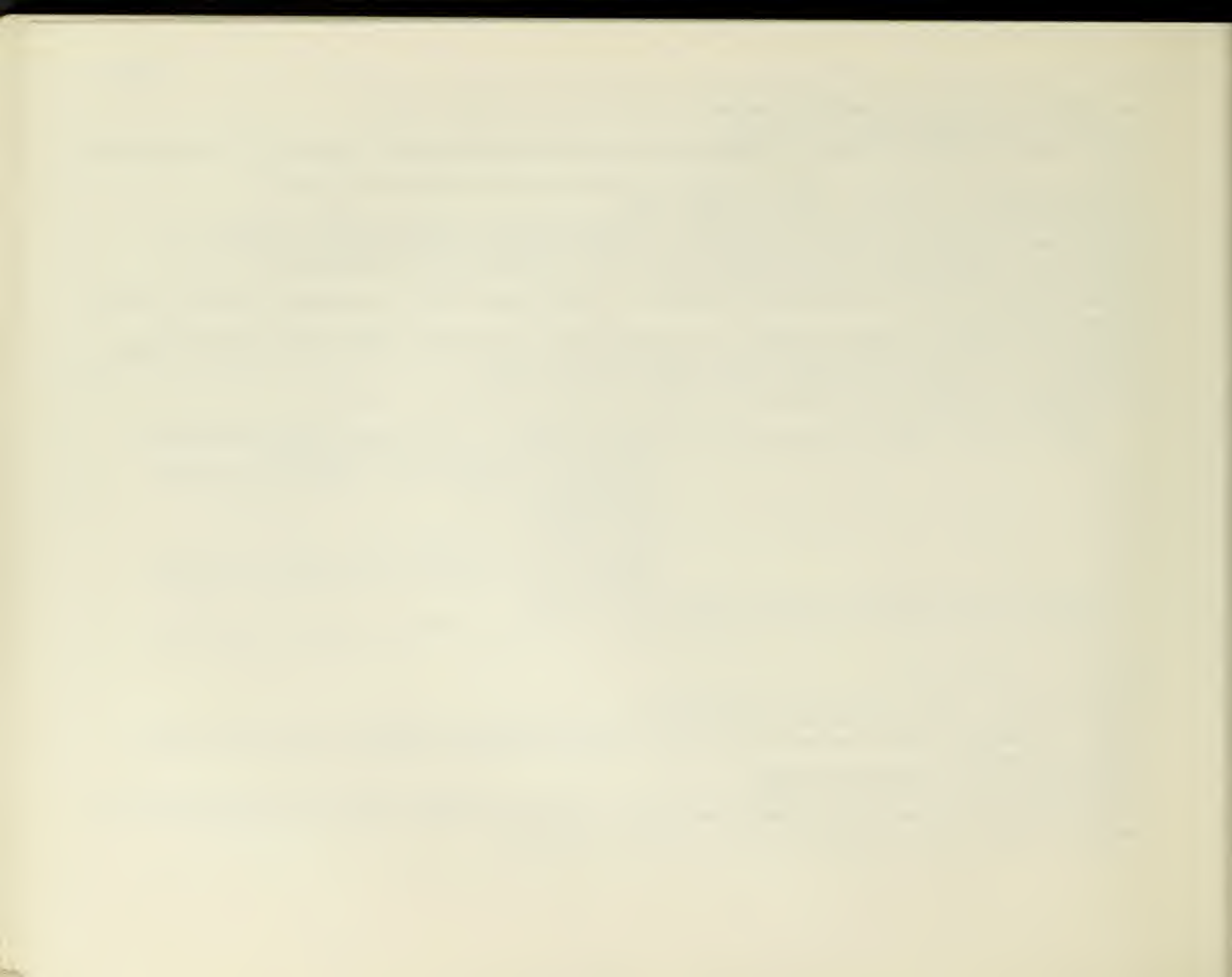




- Preliminary analysis and proposals for Northampton Paratransit Development Project
- Phase I of Fare Analysis report for the PVTA
- Town of Amherst: survey questionnaire on potential for increased carpooling among downtown employers, merchants, etc.
- On-board survey of all transit routes serving West Springfield, service modification proposals
- Completed update and refinement of PVTA systemwide map
- Analysis and recommendations resulting from service analysis request of Holyoke Community College
- Service analysis request of Monson State Hospital - ultimately served by modification of Peter Pan route
- Modification of Springfield 10 Centre shuttle bus and minor changes to CBD fringe parking lot
- Implementation and promotion of PVTA commuter pass
- Implementation of first 3rd party vanpool arrangement in Massachusetts, with the Mass Mutual Insurance Company, through Masspool Inc.
- Analysis, via on-board survey, of Longueuil's Springfield-Enfield, Connecticut transit service (Route 504)
- Development and implementation to select SSRC routes to improve service efficiency and reduce costs (implemented subsequent to SSRC loss of Springfield school transportation contract)
- The following activities are carried out on an ongoing basis by the Planning Commission:
  - 16(b)(2) grant counseling
  - Day-to-day PVTA support planning activities:
    - Technical support for PVTA elderly/handicapped services
    - Update of PVTA system maps and timetables
    - Coordination with Western Mass carpool/vanpool program
    - Coordination with CTP
    - On-board surveys
    - On-off counts
    - Route and schedule modifications
    - Integration of air quality considerations with transit planning efforts
  - Continued identification of potential paratransit locations
  - Development of innovative and/or experimental service proposals, including paratransit applications

#### PROGRAMMED FOR IMPLEMENTATION

- Upcoming (Spring, 1980) regional PVTA on-board survey
- Phase II of the Fare Analysis report for the PVTA - the Fare Zone Structure study
- Analysis of potential express bus services in select locations including integration with possible fringe parking arrangements
- Implementation of CTP Demonstration Phase
- Comprehensive analysis of transit services centering on the Town of Amherst including additional analysis of the Five College route serving South Hadley (Mt. Holyoke) and Amherst (Amherst College and University of Mass.)
- Implementation of a transit/pedestrian mall in downtown Springfield



## D. ACTIONS TO INCREASE INTERNAL TRANSIT MANAGEMENT EFFICIENCY SUCH AS:

- Improve marketing
- Develop cost accounting and other management tools to improve decision-making
- Establish maintenance policies that assure greater equipment reliability
- Using surveillance and communications technology to develop real time monitoring and control capability

## PREVIOUSLY IMPLEMENTED/CURRENTLY BEING IMPLEMENTED

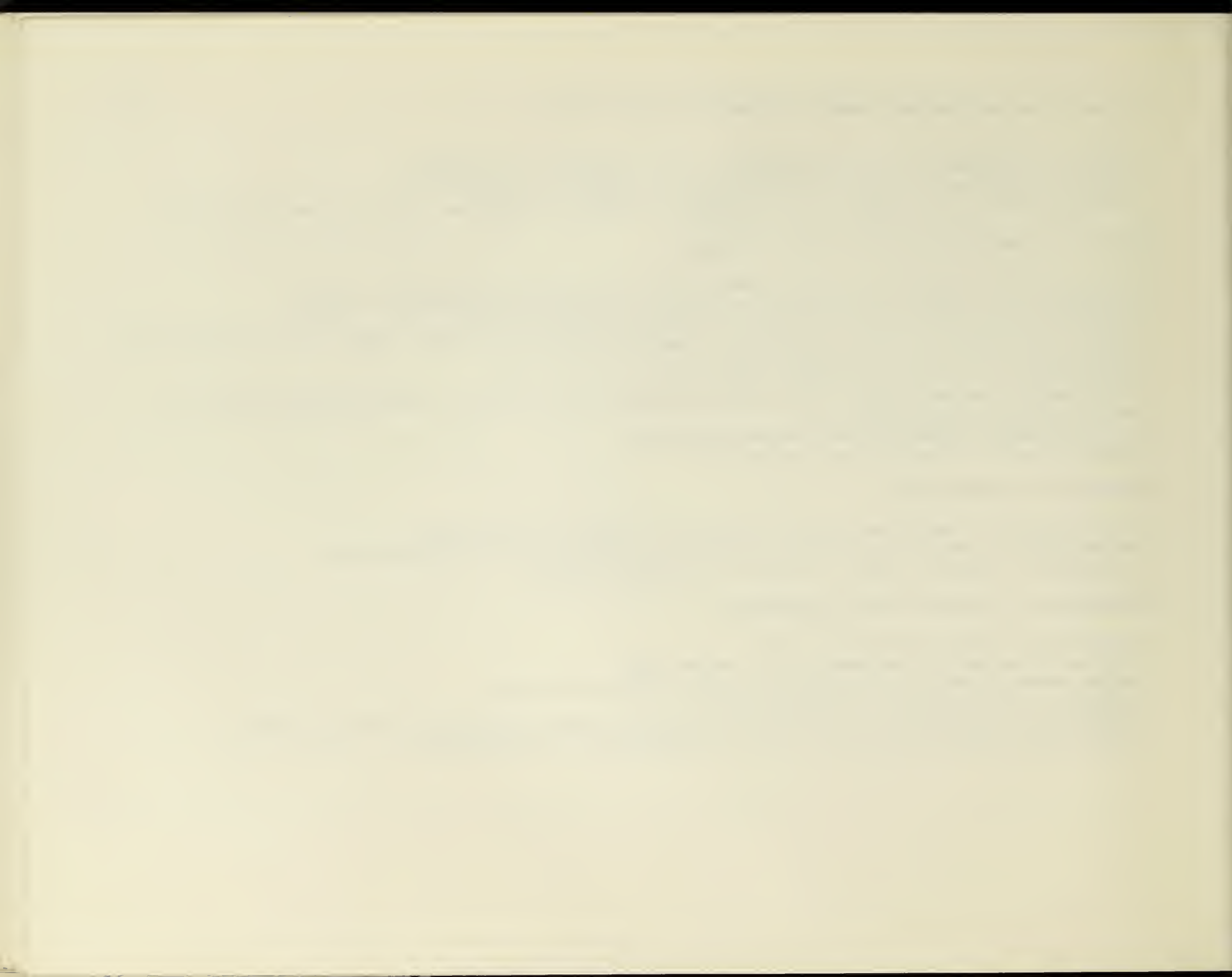
- Section 5 funding transfer to PVRTA for Connecticut portion of PVRTA service area
- Development of a transit marketing program including a communication/information component
- Detailed feasibility study for PVRTA central telephone information system
- Completion of Phase II of Transit Operation's Management Effectiveness Study (TOMES) which investigates the route structure of PVRTA service in the region
- Acquisition and installation of manual fare counters for PVRTA fleet
- PVRTA commuter pass sold through payroll deduction program at Mass Mutual Insurance Company with \$5 per employee subsidy from company
- PVRTA implemented Project FARE data collection/analysis
- Reporting system (Voluntary Level-Section 15)

## PROGRAMMED FOR IMPLEMENTATION

- Installation of a centralized telephone information system for PVRTA services
- Implementation of Monarch Insurance payroll deduction program for PVRTA commuter pass
- Development of improved transit information distribution system

## RECOMMENDED FOR POSSIBLE FUTURE IMPLEMENTATION

- Institution of Hispanic Marketing program
- Improved procedures for implementation of Project Fare
- Market research component of comprehensive transit marketing program
- Additional options outlined in TOMES-Phase II
- Feasibility study regarding application of UTPS packaged transit computerized planning programs
- Transportation/energy conservation planning incorporating the transit mode



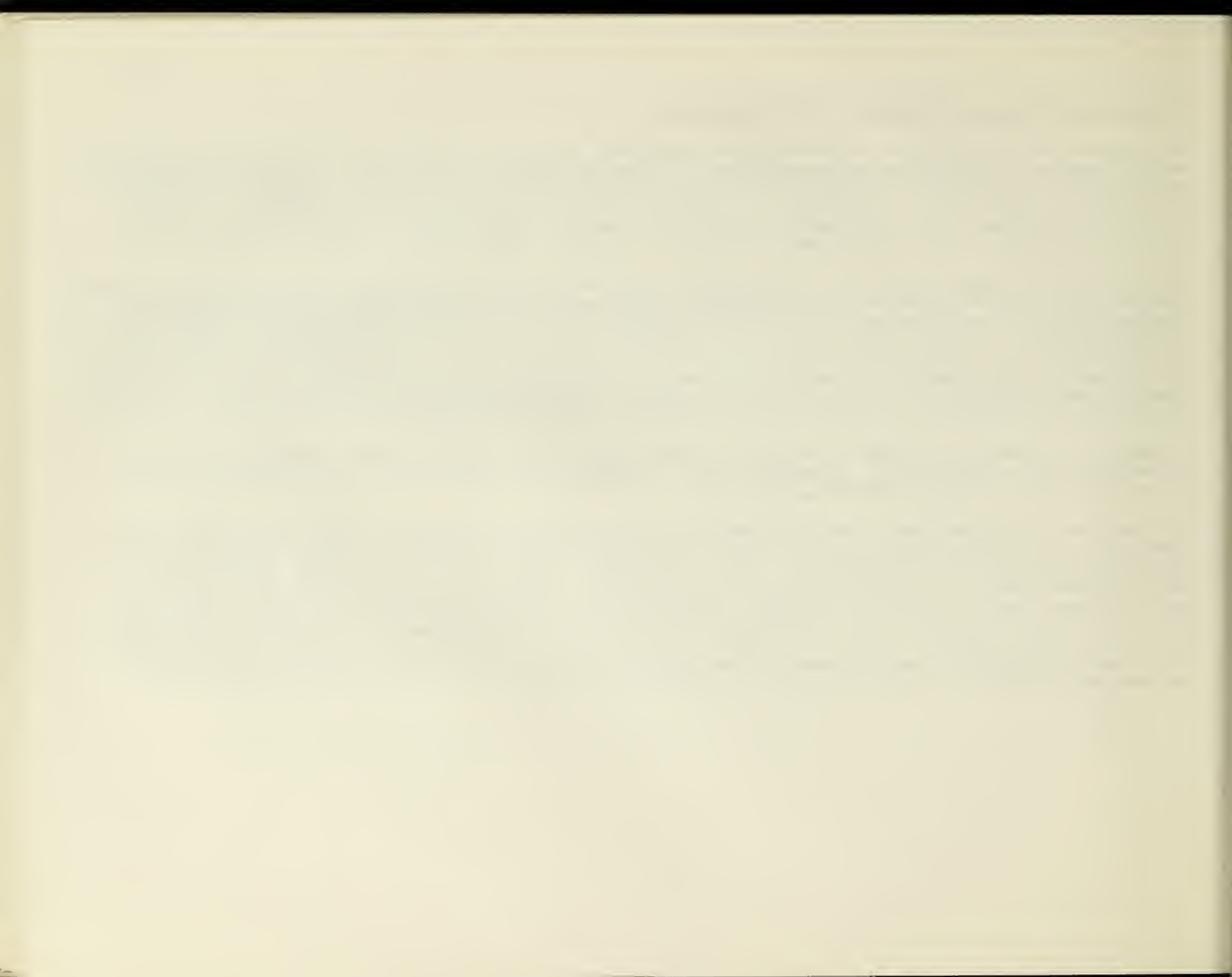
PROBLEM IDENTIFICATION AND ANALYSIS -- PROJECT PROFILES

The base data which were gathered consisted of background data concerning the region and the existing transportation network; regional transportation goals, policies, and objectives; federal TSM regulations, guidelines, and policies; and TSM-related planning activities in the region. Based in part on an analysis of this information, the three tasks which were then carried out included: the identification of regional transportation problems; the prioritization of these problems; and the development of potential solutions. These tasks were accomplished with the input of the Task Force in conjunction with ongoing analysis of the issues by the staff.

The transportation goals, policies, and objectives for the Region were pulled together from several different sources. Included among these reference documents were Regional Goals and Objectives for the Lower Pioneer Valley Regional Planning District (adopted October 17, 1977), the 1977 TSM for the Region, and the TSME Preparation Report (May, 1978). Review and analysis of these goals, policies, and objectives comprised one of the key steps early in the problem identification process. Task Force members, as well as staff personnel, used this information as guiding principles which helped to identify what the transportation network of facilities in the region would be like, ideally. This idealized case, when used as a backdrop during the review of current planning activities and existing transportation facilities, enabled Task Force and staff members to identify regional transportation problems.

Throughout the process of carrying out the three aforementioned tasks, there were regular biweekly meetings of the Ad Hoc Task Force on TSM planning. In addition, staff personnel and Task Force members were working on various assignments pertinent to the tasks between meetings.

The execution of all three tasks, identification of regional transportation problems, problem prioritization, and development of potential solutions, can be summarized as follows. The previously described background information was distributed to Task Force members prior to the first meeting. Then, at that first meeting, the role of the Task Force was reviewed, in detail, and the step entailing the identification of regional transportation problems began. Between Task Force meetings all parties involved spent a considerable amount of time on all three tasks, and at each meeting there was a valuable exchange of ideas concerning any conclusions which may have been reached, as well as regarding upcoming steps in the overall process, and how to proceed with them. This process culminated in the identification of a series of proposed, TSM solutions to high priority regional transportation problems. Comprehensive profiles of all of these solutions will now be presented.





PROGRAM: INTERSECTION CONTROL/TRAFFIC FLOW IMPROVEMENTS

PROBLEM STATEMENT: Poorly designed and regulated intersections impede the smooth and efficient flow of traffic and also result in safety hazards.

- OBJECTIVES:
- (1) To improve traffic flow at intersections through the production of an intersection modification "manual."
  - (2) To enhance safety by restricting curb cuts in or near intersections.
  - (3) To improve traffic flow by removing unnecessary traffic signals.

DESCRIPTION: There are no left turn lanes at many intersections throughout the Region where the provision of one would greatly enhance both traffic flow and traffic safety. It is recommended that an intersection modification "manual" be produced. This document would identify and describe, in detail, a number of low-cost measures suitable for modifying intersections involving the different classes of roads, as well as several common configurations for intersections in the region. These measures would relate to low-cost improvements such as channelization by painting, signing, parking prohibitions within 100' of some intersections to provide space for an additional travel lane, and others. In addition, the manual would identify possible sources of federal and state aid to implement desirable modifications. The manual will be produced in accord with the Manual of Uniform Traffic Control Devices (FHWA) as well as the relevant state guidelines.

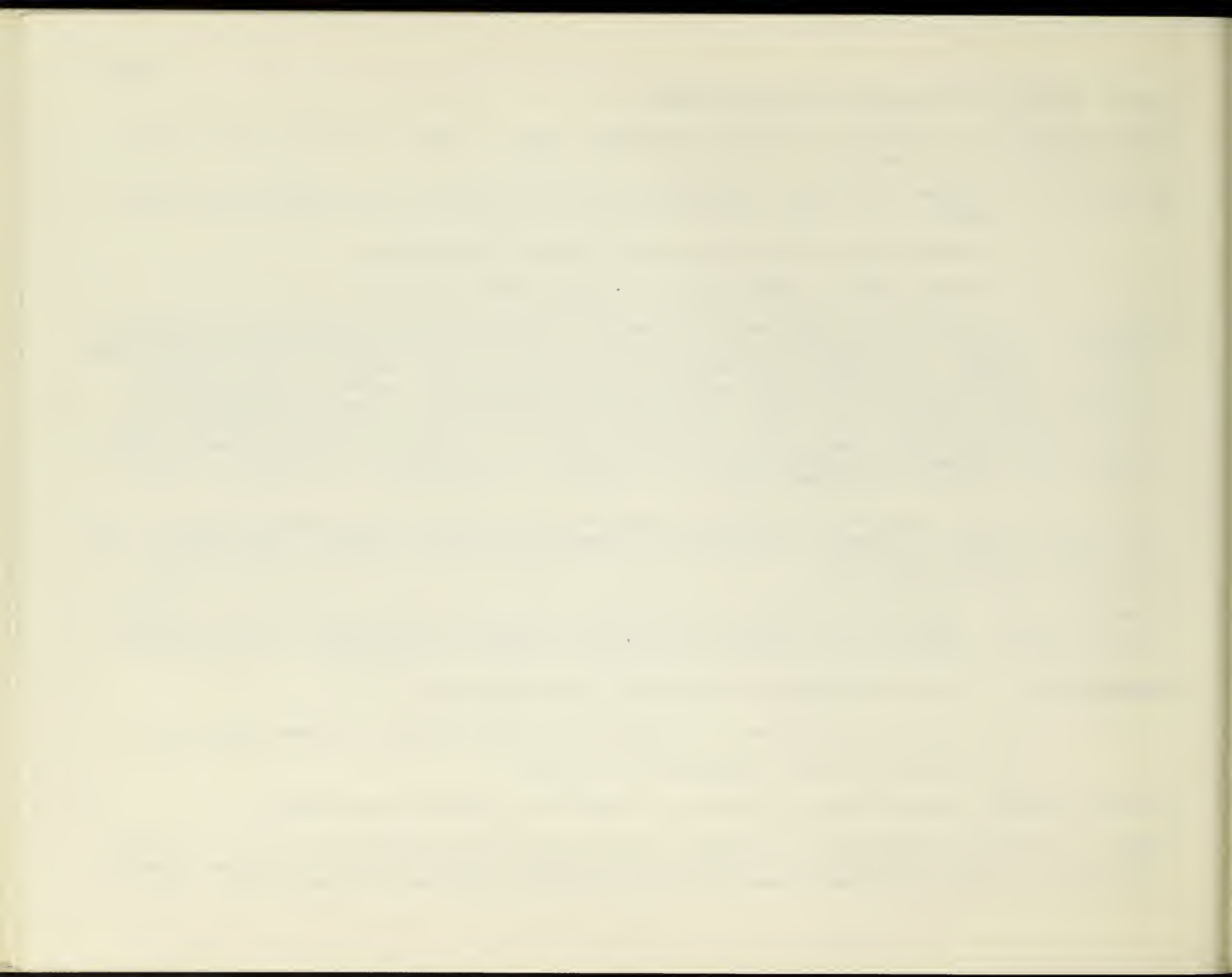
Municipalities in the region should be surveyed to determine if they have ordinances concerning the placing of curb cuts in or near an intersection. This factor is of great importance with respect to traffic safety. Those communities responding negatively to the survey should be encouraged to pass such an ordinance, and should be furnished all necessary assistance.

Unwarranted traffic signals impede efficient traffic flow and thus result result in increased fuel consumption and air pollution. Therefore, each community should be given guidance and encouragement directed towards reviewing all of the signals in the municipality to identify those which are superfluous.

- RECOMMENDATIONS:
- (1) Produce and distribute an intersection modification manual.
  - (2) Assist in the development of ordinances restricting curb cuts in or near intersections.
  - (3) Identify and remove unnecessary traffic signals.

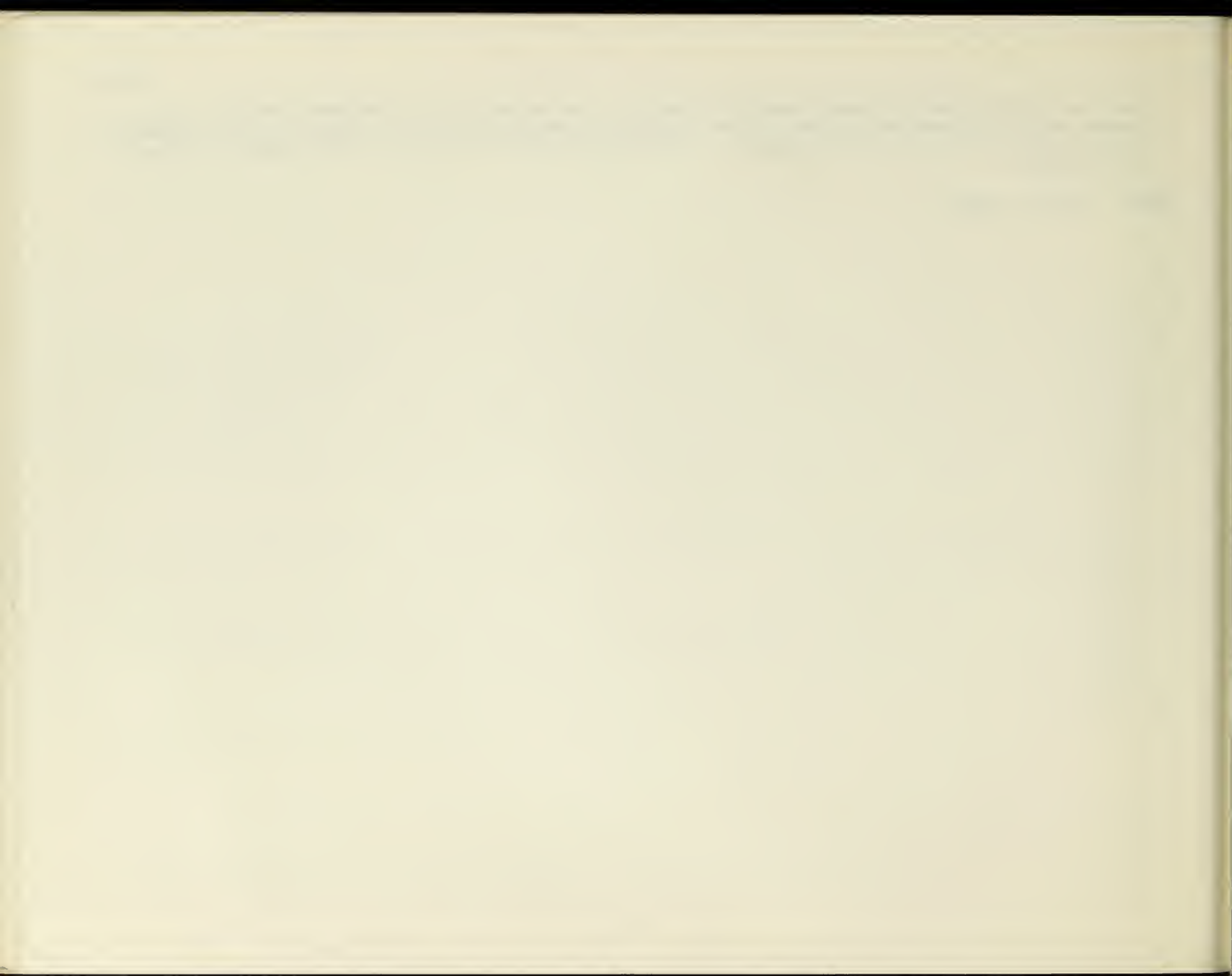
ANTICIPATED BENEFITS: Smoother and more efficient flow of traffic, and increased traffic safety.

FUNDING: It is logical to assume that the predominant need for these kinds of improvements exist in the urbanized portions of the region. Consequently, the dominant form of federal and state aid will be the Urban Systems funding category (particularly the funds earmarked for the Springfield-Chicopee-Holyoke urbanized area). Other



possible, yet more remote, funding possibilities might include Highway Safety Improvement Program, Urban System (statewide allocation) and the various categories of MDPW State Aid. Local funds can also obviously be used for these types of traffic improvements. One additional source of funds may be the Governor's Highway Safety Program.

STATUS: Planning stage.



PROGRAM: BUS STOPS -- LOCATION, SIGNING, PARKING

PROBLEM STATEMENT: The locations of bus stops should be studied so that any necessary additions, deletions, or movement of stops can be executed. Many stops are inadequately signed, and no parking restrictions are not adequately enforced.

OBJECTIVES: (1) Bus stop locations should be analyzed throughout the PVTA transit district.

(2) Bus stops should be signed at both ends.

(3) Prohibitions against parking at bus stops must be more strictly enforced.

DESCRIPTION: Some bus stops are unnecessary and inefficient, and others should be moved to promote safe and smooth flow of traffic. Thus all PVTA member communities should be encouraged and assisted with an analysis of bus stop locations in their respective communities.

All bus stops should have signs at both ends, with "no parking" arrows pointing inward. Then police should be coordinated with in an effort to step up enforcement of the ordinances which prohibit parking at bus stops.

RECOMMENDATIONS: (1) Analyze bus stop locations in each PVTA member community.

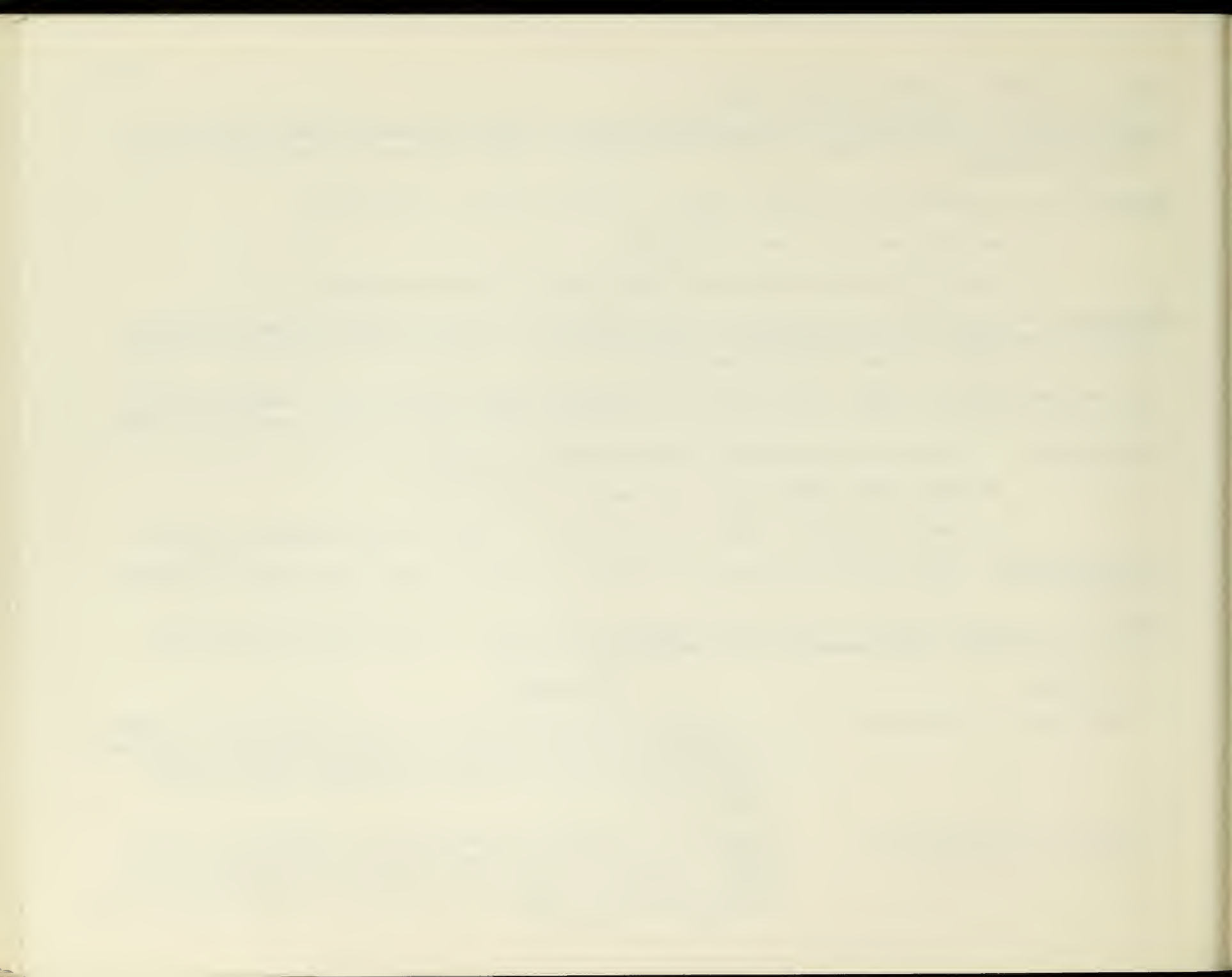
(2) Take steps to place signs at both ends of all bus stops.

(3) Work with police to step up the enforcement of ordinances against parking at bus stops.

ANTICIPATED BENEFITS: Safer and more efficient flow of traffic, and greater safety in the loading and unloading of riders.

FUNDING: This program actually has three funding components each of which will likely come from a different source of assistance. These components can be summarized as follows:

<u>Element</u>	<u>Funding Source</u>
(1) Comprehensive Bus Stop Analysis	UMTA Section 8 Transit Technical Studies Funds Received by the LPVRPC to perform such transit analysis work. These funds could be supplemented by "in kind" professional services contributed by many of the PVTA member communities (City and Town Planners, Public Works, Traffic Engineers, etc.)
(2) Acquisition of Bus Stop Signs (including installations)	Acquisition of additional bus stop signs will continue to be a UMTA Section 3 capital assistance item sought under PVTA capital assistance grants. Installation of the signs is normally handled by the local community under PVTA guidance and coordination. Bus stop signs can also be acquired with FHWA funds.



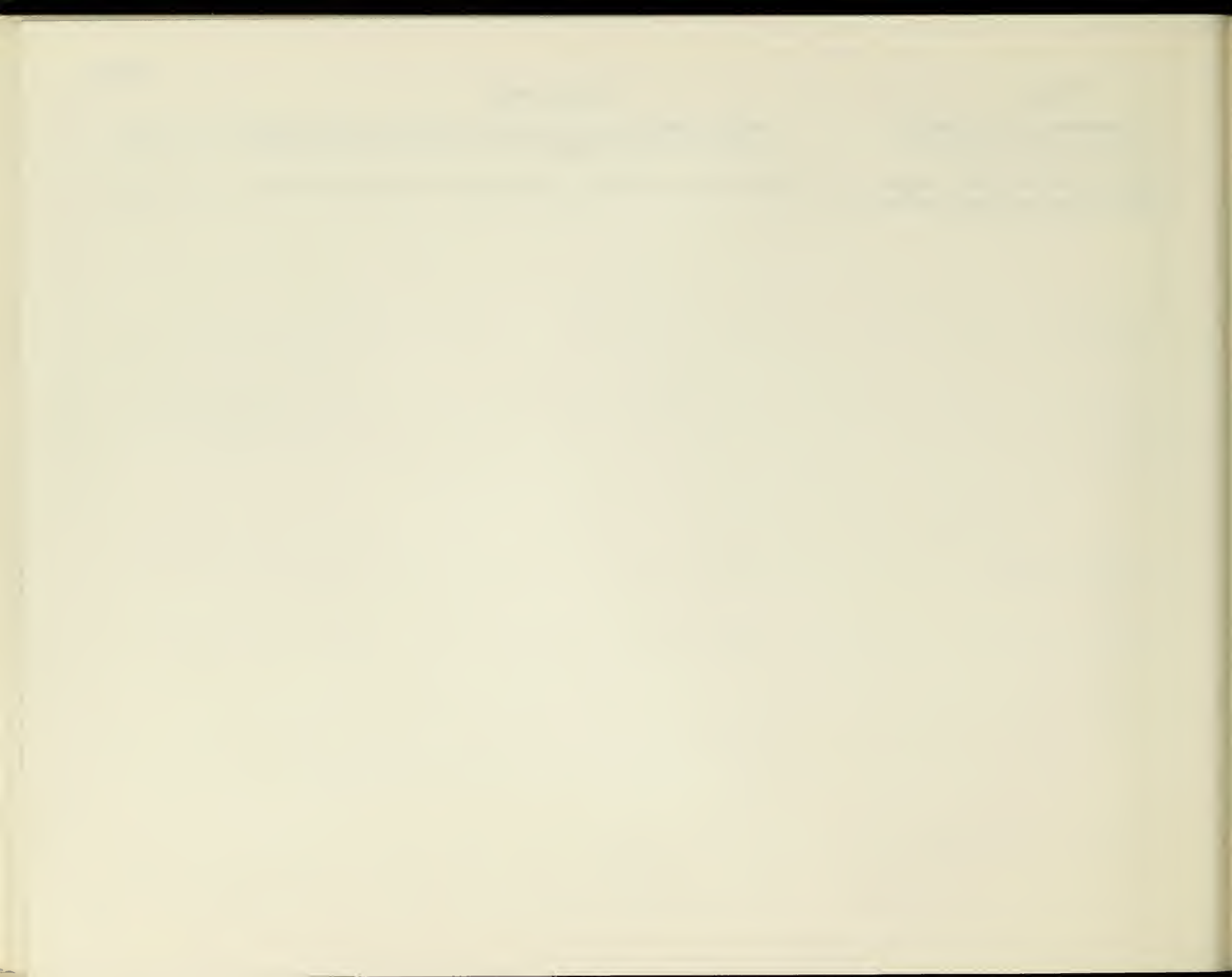


ElementFunding Source

(3) Enforcement of No Parking  
Regulations at Bus Stops

This is basically a local police function and is funded by the local governments which comprise the PVTA transit district.

STATUS: Planning stage: however, an analysis of the locations of bus stops on selected bus routes in the city of Springfield has been carried out.



PROGRAM: TRAFFIC-RELATED PROBLEMS - REGULATION AND ENFORCEMENT

PROBLEM STATEMENT: Obstruction of travel lanes is often attributable to inadequate regulation and enforcement of prohibitions against double parking, parking in or too close to an intersection, on-street truck deliveries in busy downtown areas, and incomplete traffic control around roadway construction sites. Violations by both automobiles and bicyclists themselves create dangerous conditions for all; and lines-of-sight to traffic signals and stop signs are often obscured by untrimmed trees and shrubs.

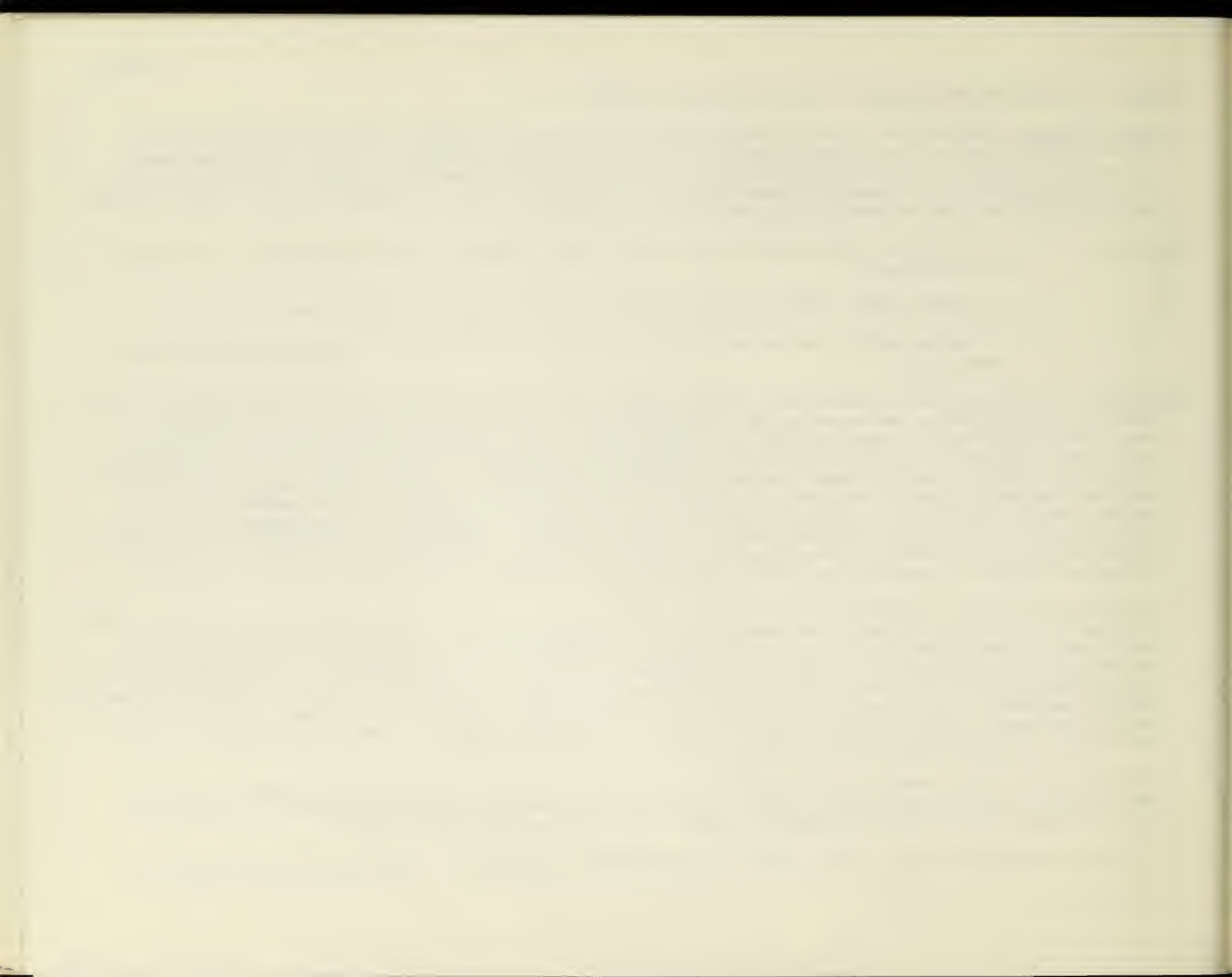
- OBJECTIVES:
- (1) To improve the flow of traffic and enhance traffic safety a coordinated program of regulation and enforcement.
  - (2) To promote traffic safety through improved maintenance of lines-of-sight at intersections.
  - (3) To improve traffic flow by means of restricting truck deliveries in downtown areas during peak travel hours.

DESCRIPTION: Double parking in travel lanes, a major problem with respect to both traffic safety and vehicle flow, could be reduced with the implementation of a three-part program. First, there should be coordination with local police departments in order to step up the enforcement of laws prohibiting double parking on selected key streets. Second, municipalities should be encouraged to pass, and if necessary assisted in the development of, stiffer ordinances against double parking, including the imposition of higher fines. Third, appropriate locations for pulling over to the side of the road in order to drop off or pick up handicapped and elderly persons should be identified. Municipalities would then be provided assistance and encouragement in drafting ordinances which would create such "no parking - stopping only" zones, and empower the police to ticket violators. A related step, one intended to develop regulations which are simple, equitable, and more easily enforced by the police, consists of carrying out studies of downtown parking policies and plans.

As the bicycle becomes increasingly important as a mode of transportation, so does the need for a program designed to promote safety for bicyclists. One measure consists of promoting safety through the implementation of an educational program on bicycle safety in area schools. This would necessitate coordination with school boards and teachers, police departments, bicycling organizations, and other interested parties. Laws prohibiting automobiles from traveling in exclusive bike lanes should be more widely publicized and also more strictly enforced. Again, coordination with police will be essential. An investigation of ordinances and laws pertaining to bicycles, and also to Mopeds, should be carried out. And finally, bicyclists who break the law when operating on public roads should be ticketed by police in order to promote safer riding habits.

Traffic control around construction sites which block travel lanes is not always adequate, especially during those hours when the workers are not there. A survey of state and local ordinances pertaining to this issue should be taken. Also, state laws regarding signing around such sites must be enforced.

A two-part program to promote traffic safety through improved maintenance of lines-of-sight at intersections



should be implemented. Trees and shrubs which obscure traffic signals and stop signs must be required to be trimmed. Such ordinances should be passed where necessary, and in all cases should be strictly enforced. A person in each municipality whom the public could contact regarding problem locations should be designated. Second, cars which are parked too close to an intersection must be ticketed, and where necessary ordinances governing this ought to be passed.

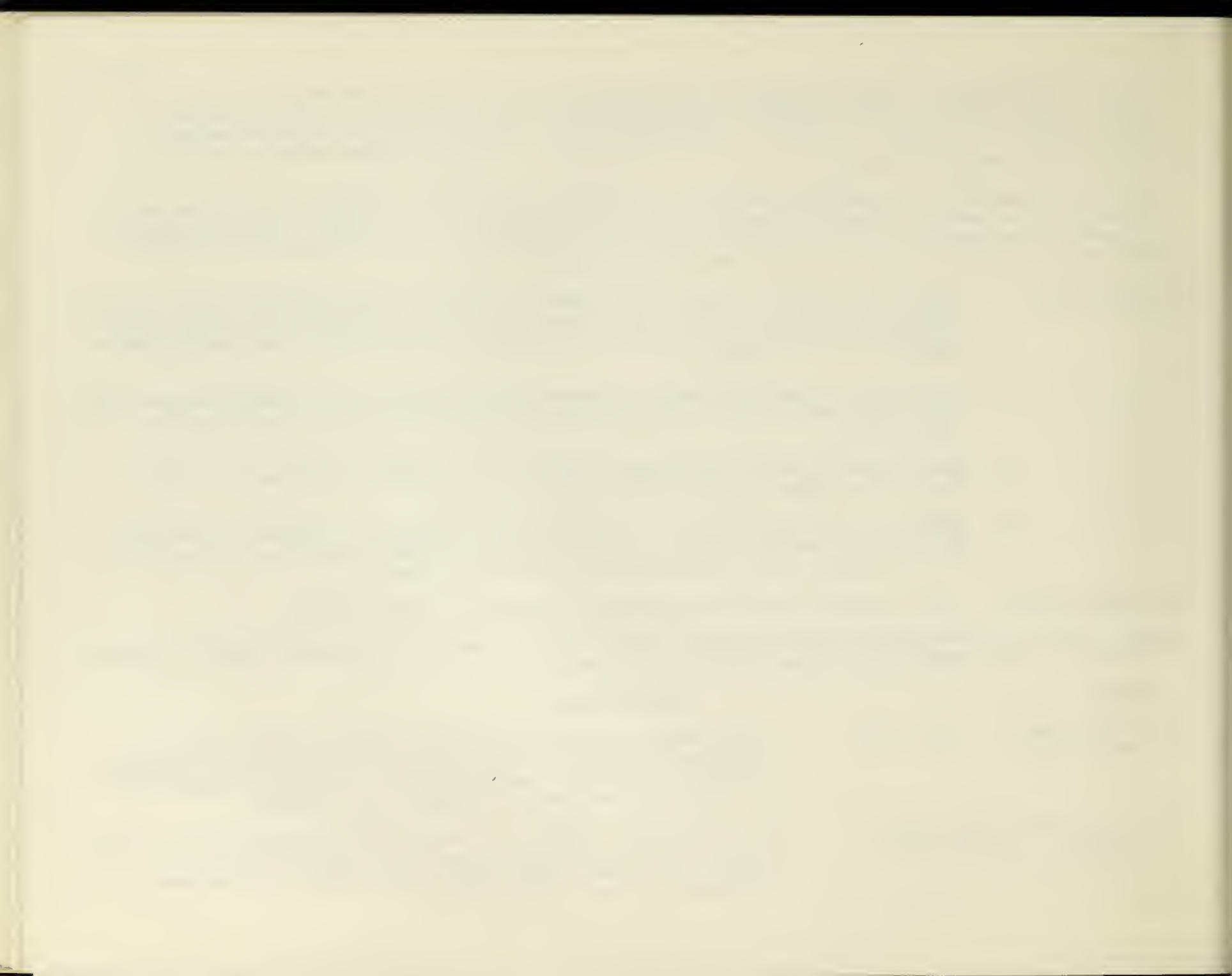
In order to improve traffic flow during the morning and afternoon peak periods, on-street truck delivery should be prohibited in some of the larger and busier central business districts in the region. If such an ordinance is passed, fines should be high for violators, and the police should be asked to enforce the law strictly, as the impacts on vehicle flow and air quality would be significant.

- RECOMMENDATIONS:
- (1) Coordinate with police to step up enforcement of ordinances against double parking; encourage and assist in the drafting of stiffer ordinances; assist in identification of appropriate locations for, and ordinances creating, "no parking - stopping only" zones; analyze downtown parking policies and plans.
  - (2) Develop and implement an educational program on bicycle safety in area schools; enforce laws which create exclusive bike lanes; investigate ordinances pertaining to bicyclists who violate the law.
  - (3) Improve traffic control around roadway construction sites through enforcement of state signing laws; survey local ordinances pertaining to this.
  - (4) Improve lines-of-sight at intersections by stricter enforcement of ordinances prohibiting parking in or near them, and by passing and enforcing ordinances requiring trees and shrubs which may obscure traffic signals and stop signs to be trimmed.

ANTICIPATED BENEFITS: Improved vehicle flow and increased safety for motorists and bicyclists.

FUNDING: Funding for this proposed program would most likely involve a combination of funding assistance categories. A potential funding scheme might include the following elements:

<u>Element</u>	<u>Funding Source</u>
(1) Coordination With Local Police Departments	This element could be carried out as a special "training" program coordinated by the LPVRPC. Funds involved for planning and coordination work could come from our metropolitan (3C) planning funds supplemented by a grant from the Governor's Highway Safety Program.
(2) Development of Stiffer Local Ordinances for Traffic and/or Parking Control	This item would be supported by local funds from city and town police and law departments. Obviously, these local actions could capitalize on the results of the first element which might produce one or more model ordinances for local consideration.



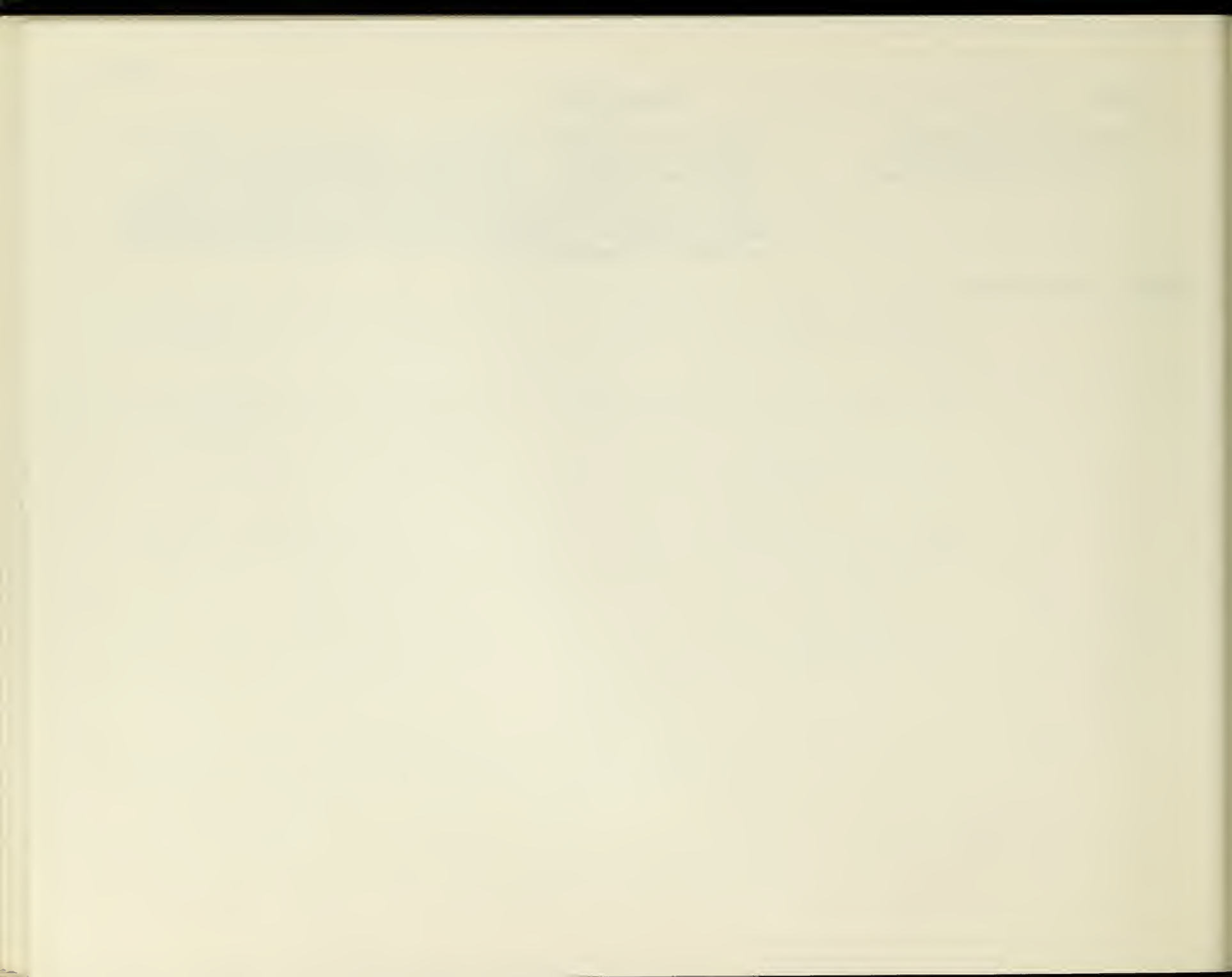


ElementFunding Source

- (3) Construction of Drop Off/  
Pick Up Points (particularly  
for elderly and handicapped)

The majority of these would likely be concentrated in the urbanized section of the region. Consequently, the most likely source of federal and state aid is Urban Systems funds earmarked for the Springfield-Chicopee-Holyoke urbanized area. Outside the urbanized area, a variety of funding programs might be employed such as MDPW State Aid Programs, Community Development Block Grant Program Funds, and local funds, among others.

STATUS: Planning stage.



PROGRAM: RECONSTRUCTION OR UPGRADING OF PAVEMENT AND ROADWAY GEOMETRICS ON BUS ROUTES

PROBLEM STATEMENT: On some bus route alignments the road surface is allowed to deteriorate badly. Another problem which occurs on some routes involves a lack of sufficient space for normal travelling and turning movements.

OBJECTIVE: Coordinate between each bus company and each community through which its buses travel. Set up a mechanism by which the bus company can identify problem areas to the communities so that they can be solved.

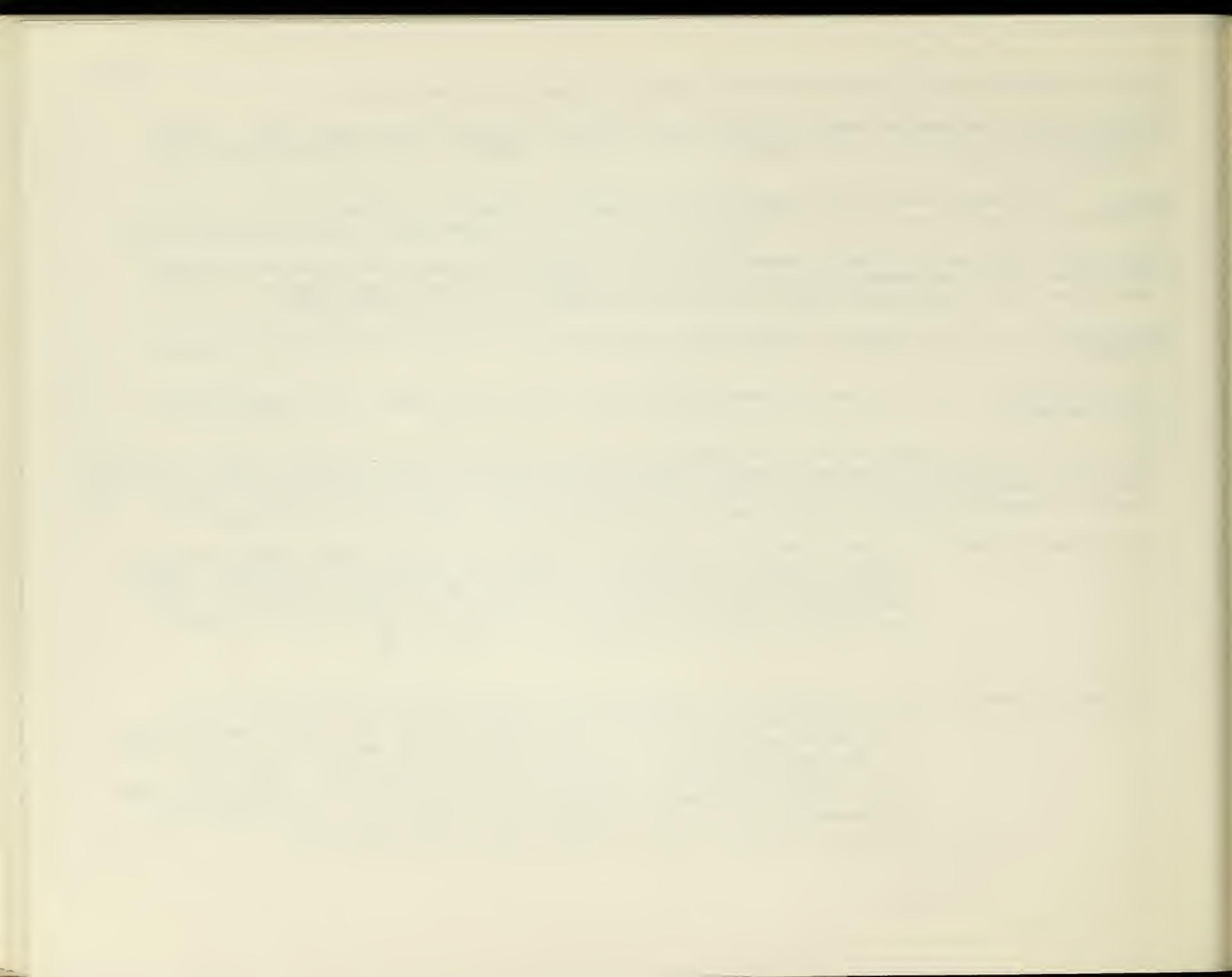
DESCRIPTION: Problem areas related to pavement condition and roadway geometrics occur on various bus routes. Prearranged channels of communication between the bus companies and PVTA member municipalities should be established. Then these problems could be identified and addressed quickly and efficiently.

RECOMMENDATION: Establish channels of communication, regarding roads, between bus companies and PVTA member communities.

ANTICIPATED BENEFITS: More efficient and safer operations by the PVTA, and a smoother, more comfortable ride for passengers.

FUNDING: Basically this program involves two different types of physical highway improvements, namely, (1) reconstruction or upgrading of the pavement surface of select roadway corridors on which PVTA fixed route bus services are operated and (2) modification to the geometrics of certain roadways, particularly where they intersect. The types of improvements and their possible sources of funding assistance could be grouped as follows:

- (a) Pavement Upgrading - If the improvement is essentially repaving an existing roadway, Federal assistance funds are normally not available. Likewise the State has some categories of MDPW state aid which can be used for this purpose, but the amount available is limited. Consequently, most local repaving jobs (strictly maintenance types of projects) are underwritten with local monies or not funded at all.
- (b) Pavement Reconstruction - If the nature of the pavement improvement constitutes something more than ordinary maintenance, federal and state assistance can be obtained since the project is no longer maintenance, but actually reconstruction. There are a variety of federal and state categories of assistance which are applicable to such projects (e.g. Consolidated Primary, Urban Systems, Rural Primary, etc.) Certain local roads are not eligible for federal assistance, and in such cases the responsibility for reconstruction and its associated costs must be borne by the city or town in question (although alternate sources for state aid may be eligible for use).



- (c) Roadway Geometrics - Changes to roadway geometrics to improve traffic flow and/or safety are supported by a number of different categories of federal and state funding. The exact category employed at any one location will be heavily dependent upon the functional classification of the roadway and the nature of the geometric problem or deficiency to be corrected. In the event federal and state funds are not available, the local government must underwrite the cost of improvements to the geometrics of one or more locations in a given community.

STATUS: Planning stage.





PROGRAM: BICYCLE FACILITIES - STANDARDS AND MAINTENANCE PRACTICES

PROBLEM STATEMENT: Construction standards and maintenance practices on roads commonly used by bicycles are sometimes inadequate or unsafe.

OBJECTIVE: Develop and distribute adequate construction standards and maintenance practices regarding bicycle-related roadway facilities.

DESCRIPTION: Standards for grates in roadways which are effective but also safe for bicycles are available and should be distributed throughout the region. Also, municipalities will be encouraged to clean regularly and maintain adequate pavement quality in reserved bike lanes and on road shoulders commonly used by bicyclists. Signing of bikeways and preferred bike routes is very often inadequate, and higher recommended standards should be developed and distributed.

Paving the shoulders of rural roads with a different material than the travel lane might discourage automobiles from using the shoulder; this should be investigated, and if feasible, implemented. Also, Chapter 90 funds are available to construct and maintain bikeways.

- RECOMMENDATIONS:
- (1) Encourage municipalities to apply existing roadway grate standards, to clean and maintain bike lanes and road shoulders on preferred bike routes, to apply higher, recommended bike-way signing standards.
  - (2) Investigate differential paving measure for feasibility, and if indicated, begin implementation process.

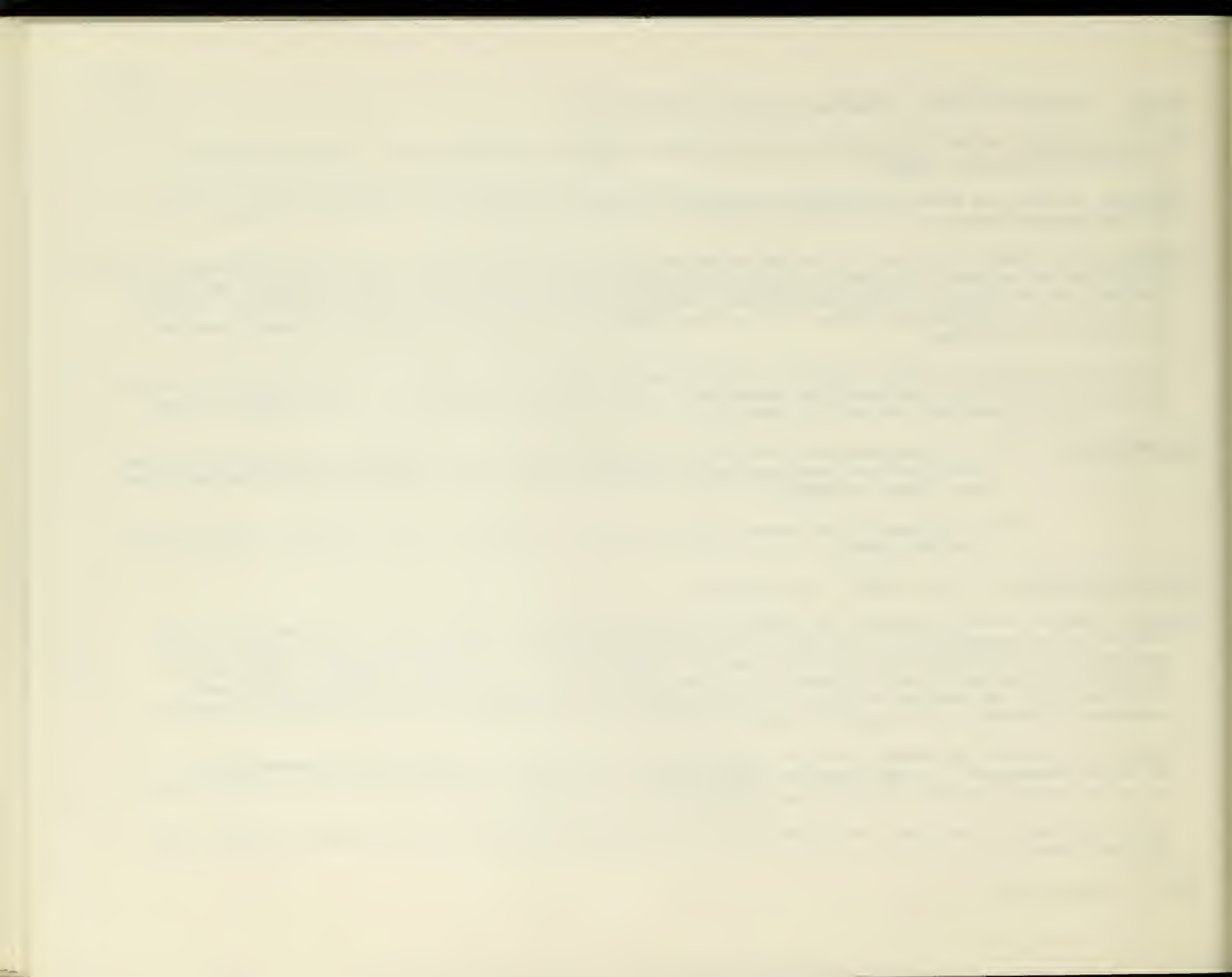
ANTICIPATED BENEFITS: Greater safety for bicyclists.

FUNDING: Inasmuch as the development of recommended design standards for bikeways is a joint federal and state responsibility, promulgation of such standards would have to evolve from federal and/or state transportation agencies which have jurisdiction over this function. The results of this program, however, which will be underwritten by metropolitan (3C) planning funds which are used to complete the necessary analysis work. Correspondingly, the products of this work may influence the development of new and/or modified construction standards by federal and transportation agencies.

Improved or expanded maintenance practices for bikeway facilities will in large part be a responsibility for local governments. In some instances, bikeway facilities located in tandem with the state highway system may be maintained with state highway funds administered by the MDPW.

Chapter 90 funds are available for bikeway construction and maintenance, as are funds from the regular State Aid Bond Issue.

STATUS: Planning Stage.



PROGRAM: DEVELOPMENT OF PARK-N-RIDE LOCATIONS ON PVTA BUS ROUTES

PROBLEM STATEMENT: Commuters living in outlying areas may be discouraged from using transit to travel to work if they do not live within a few blocks of a stop or if there is no convenient place to park near a stop.

OBJECTIVE: Identify appropriate park-n-ride locations throughout the PVTA transit district, develop them as indicated by the Analysis.

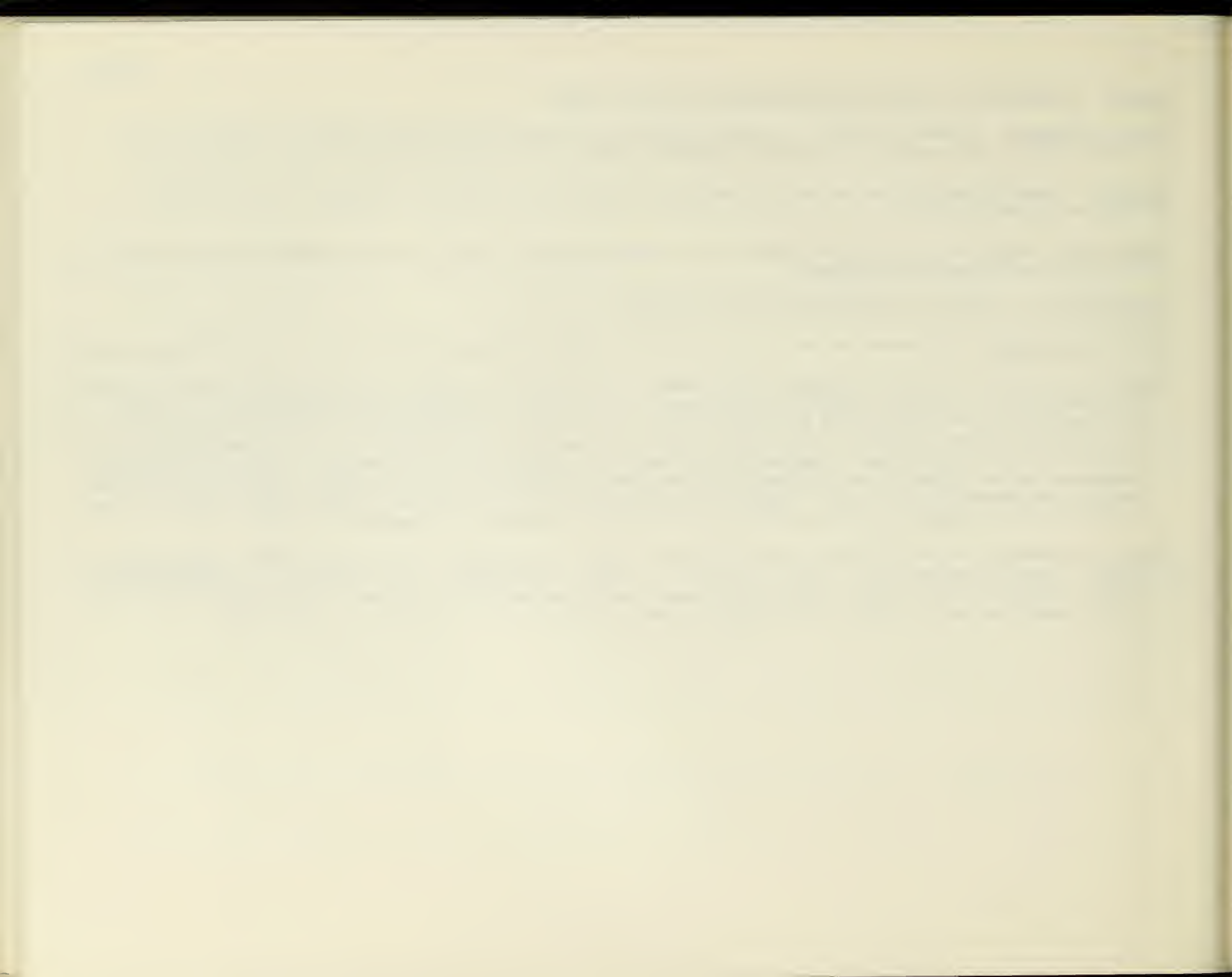
DESCRIPTION: As part of the continuing effort to introduce new transit services where needed park-n-ride locations are being investigated and evaluated.

RECOMMENDATION: Continue to develop park-n-ride locations.

ANTICIPATED BENEFITS: Increased use of transit, decreased traffic congestion and fuel use, and improved air quality.

FUNDING: The federal and state governments have shown a willingness to provide funding assistance to help construct park and ride lots. Capital expenditures necessary to construct or to improve Park-N-Ride facilities tied to PVTA transit services are eligible for several categories of aid. Certain Federal-Aid Highway Funds, particularly the Interstate, Urban Systems and Interstate Transfer Programs all include provisions for the development of fringe area parking facilities. Similarly, UMTA Section 3 (capital) and UMTA Section 5 (capital and operating) assistance can be applied to the implementation and operation of both fringe area parking lots and the transit services interconnected with them. Recommended park-n-ride sites for the Lower Pioneer Valley Region have been identified by the LPVRPC as part of a previous UMTA transit technical study completed in 1967.

STATUS: Recommended park-n-ride sites were identified in Fringe Parking for Transit in the Lower Pioneer Valley Region, a study produced by the Planning Commission in 1976. In addition, sites continue to be identified during sketch planning efforts aimed at identifying and/or evaluating new service proposals. Thus park-n-ride sites will be identified on an ongoing basis as part of the regular planning program at the Commission.



PROGRAM: IMPROVED TRAFFIC SIGNING

PROBLEM STATEMENT: Inadequate traffic signing compounds congestion problems in downtown areas and also does not provide sufficient directions to guide drivers to major trip destinations.

- OBJECTIVES:
- (1) Divert through traffic around downtown areas.
  - (2) Provide better signing to major generators such as hospitals and freeways.
  - (3) Ensure that signs are directing vehicles to the best possible route.

DESCRIPTION: Analyze common travel patterns and then provide signs to direct through traffic around downtown areas. Provide better signing to major trip generators such as hospitals, freeways, and parks. Prior to implementing any new signing programs, ensure that existing signs and newly proposed signs direct drivers via the best possible route. These activities should be carried out at the local level, with technical support and guidance provided by the regional planning commission.

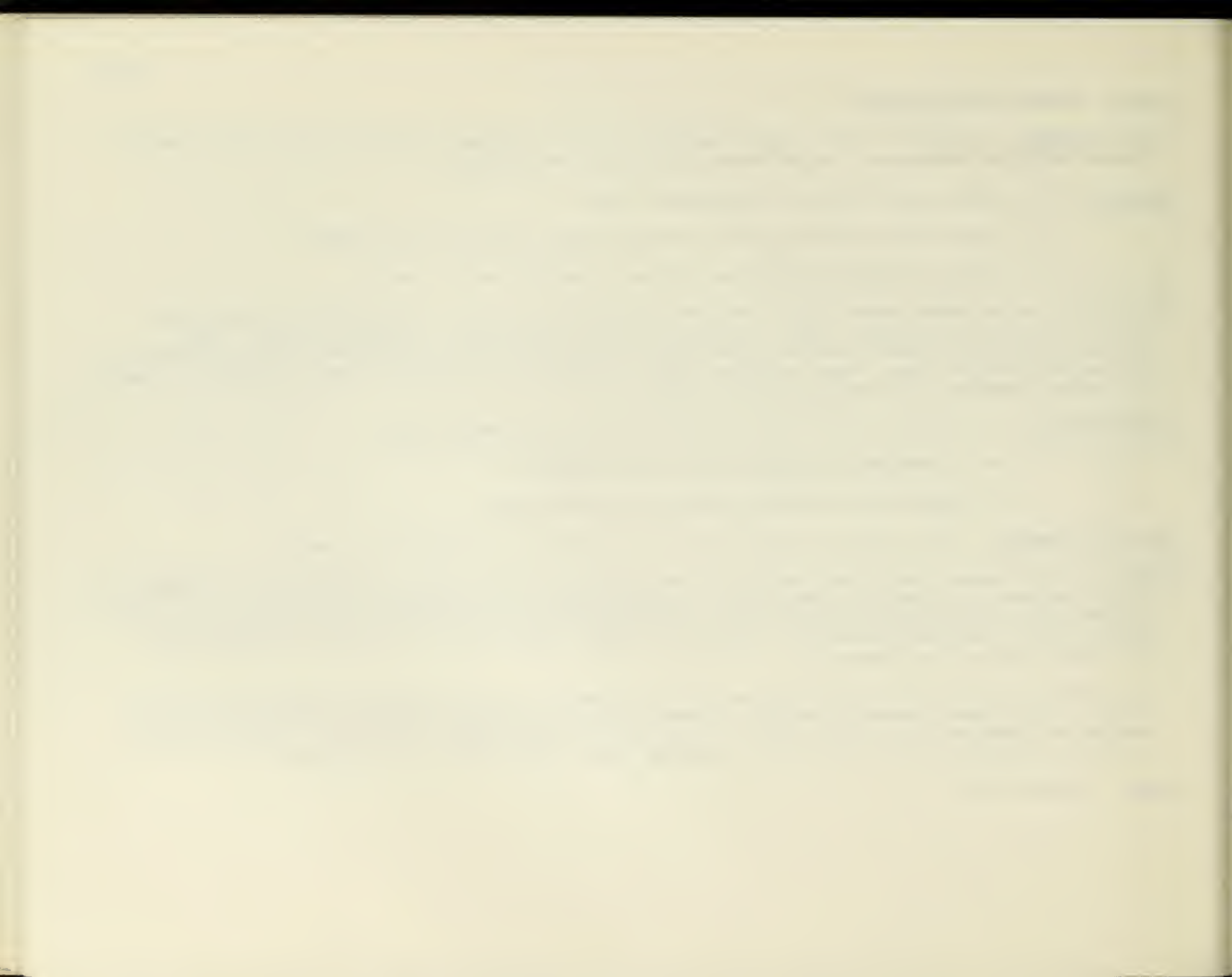
- RECOMMENDATIONS:
- (1) Provide signs to divert through traffic around downtown areas.
  - (2) Provide better signing to major trip generators.
  - (3) Ensure that signs are indicating the optimum route.

ANTICIPATED BENEFITS: Reduce traffic congestion and fuel consumption, and improved air quality.

FUNDING: Traffic signing (directional, regulatory, and informational) is a shared responsibility of the state and local governments throughout the Commonwealth. In Massachusetts, the Massachusetts Department of Public Works is the state agency responsible for traffic signing of both state highways and interstates. Correspondingly, the MDPW has certain regulatory functions in terms of the traffic signing which is installed by the 351 cities and towns throughout the Commonwealth.

As a result of this joint state/local responsibility the costs are likewise supported from different sources of aid. Traffic signs created by the MDPW on state or interstate highway are funded with federal and state assistance. Conversely at the local level, the cost of most traffic signs (with several exceptions such as signing in designated school zones) must be supported almost exclusively with local monies.

STATUS: Planning stage.





PROGRAM: IMPROVE AND EXPAND PVTA INFORMATION DISTRIBUTION

PROBLEM STATEMENT: The information distribution techniques which have been used by the PVTA and the individual bus companies are not adequate.

OBJECTIVE: To take whatever steps are appropriate to improve the distribution of transit information to the public.

DESCRIPTION: Because efforts are already underway, on several different fronts, to address this problem, the major recommendation is to continue these efforts. Included among these efforts are: the anticipated introduction of a central telephone information office for the PVTA; the updating of the system map and schedules; the identification of additional depositories for printed materials; market research and analysis.

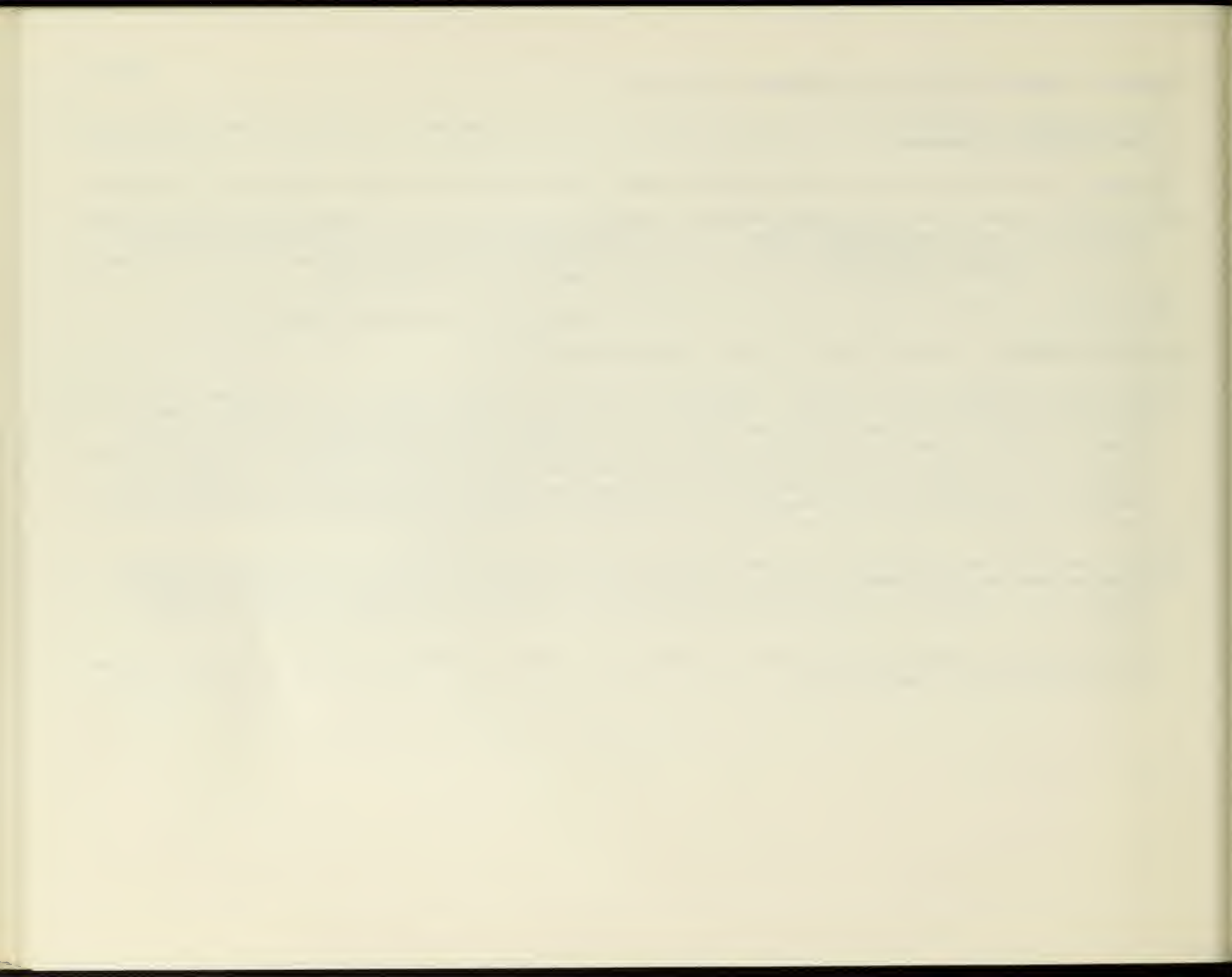
RECOMMENDATION: Continue to work at improving the information distribution techniques for the PVTA.

ANTICIPATED BENEFITS: Improved access to transit information for the public.

FUNDING: The development, publication and widespread dissemination of various forms of transit system information is a principal responsibility of the PVTA. Consequently, the costs of these activities are an ordinary item of expense for the PVTA which are eligible for various forms of federal and state assistance. In terms of the technical analysis of the strengths and deficiencies of the PVTA's existing information system, the costs of the evaluation will be underwritten by UMTA Section 8 technical study funds awarded to the PVTA. In terms of implementing the recommendation which evolves from this intensive analysis, the UMTA Section 5 Program will undoubtedly be the primary source of federal aid. An additional expenditure for marketing type activities undertaken by the PVTA must first, however, be endorsed by the PVTA's Advisory Board.

STATUS: The PVTA's central telephone information system is scheduled for implementation by the summer of 1980. Schedules have been distributed to the town halls of nearby all PVTA member communities during the past year. In addition, SSRC schedules were distributed to all libraries in the City of Springfield (through the central library).

Both the Planning Commission and the PVTA will continue their efforts to improve the methods of transit information distribution on an ongoing basis.



Detailed project action plans and implementation structures must now be developed. Each action plan/implementation structure will include a detailed description of the project; the identification of every agency which will take part in its implementation; a review of the tasks which each implementing agency will be required to carry out; recommended measures for coordination among the various agencies; and recommended measures of effectiveness and techniques for monitoring the project after it has been implemented. These effectiveness measures are especially important in that they will enable the staff to gauge the degree to which a given TSM project achieved the objectives for which it was intended.

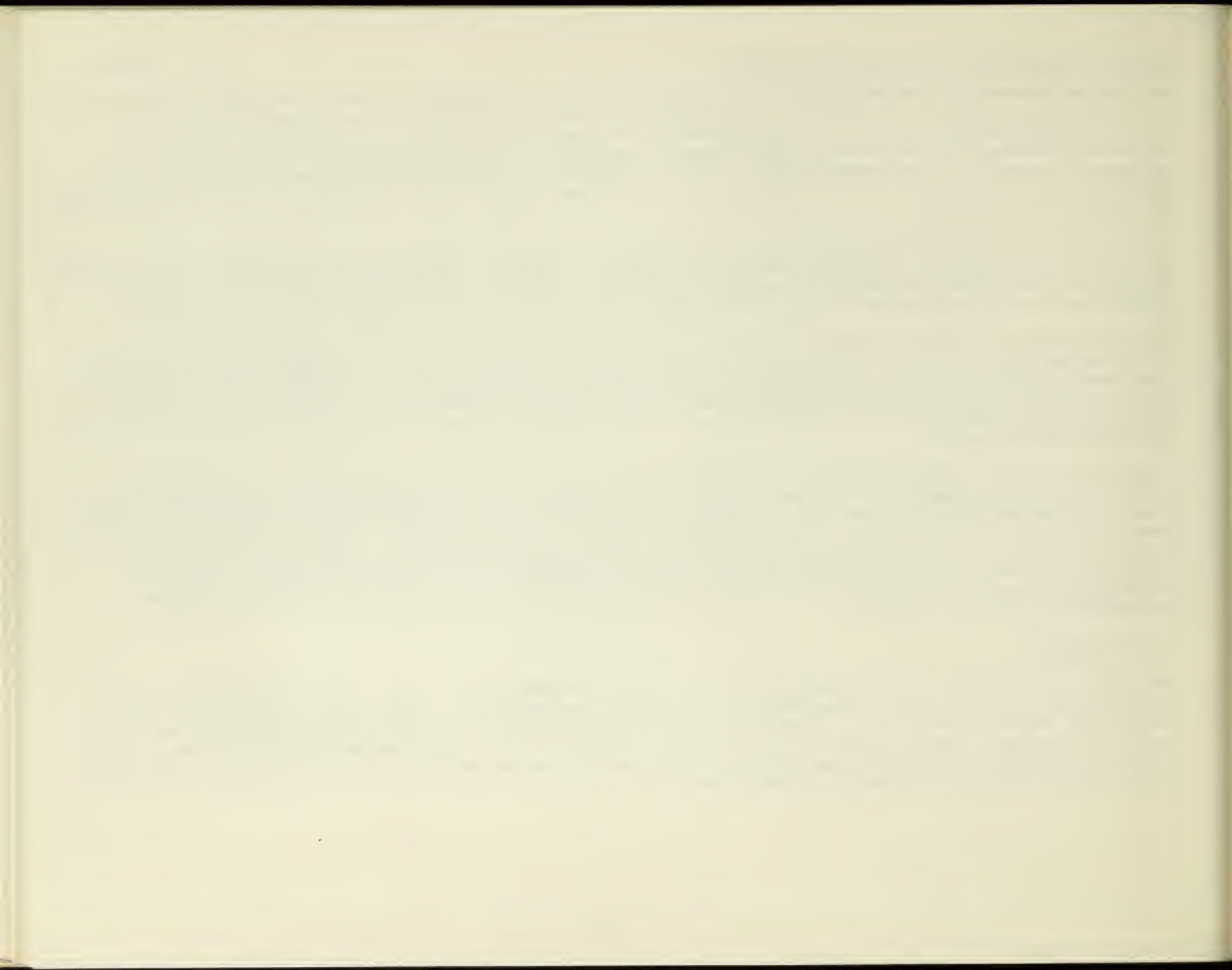
All of the preceding profiles of proposed TSM solutions have been given a high priority. Nonetheless, staff, as the Task Force recommended, will prioritize among this group of proposals. They will then be implemented in the order in which they are ranked, and as many as possible will be undertaken in the coming year. However, a decision has already been reached that provides for the implementation of a minimum of four of these highly ranked proposals.

The development of the project action plans will carry this process beyond the conceptual stage into the beginning of the implementation process. The production of these plans is therefore, of the utmost importance and will be undertaken by staff with this in mind. The Task Force will continue to provide valuable input during the development of the project action plans. In addition, as projects in specific communities are identified, an extensive dialogue with local officials in the municipalities concerned will begin, and this dialogue will continue throughout the implementation process.

There are two paths a proposed solution could follow in moving from the planning stage through to implementation. Solutions which do not require any capital expenditures can be identified through incorporation into the work program at the Regional Planning Commission. Once these solutions have been identified, Planning Commission staff will communicate them to the appropriate agency or organization for final implementation. Those solutions which are low-capital intensive, and thus require a capital expenditure, move through a different implementation process. A coordinated planning program with relevant local, state, and federal officials must be carried out. As projects are finalized, they will be included in the Transportation Improvement Program (TIP) for the region, and then implemented according to schedule.

#### Future Prospects

The TSME is the component of the Transportation Plan which is intended to guide short range transportation planning in the region. One way this is accomplished is through the identification of problems which will require further analysis and action in the future. A number of these TSM-type problems were identified by the JTC Task Force and staff, but were not initially assigned a high priority. Accordingly, these problems have temporarily been put aside to await later study. Hopefully, these problems can be addressed during the preparation of the Region's next TSME. A brief overview of these problems is presented below.



Medium Priority1. Intersection Control:

There is a definite need for new traffic signal equipment, primarily because older equipment does not readily allow for:

- synchronizing or staggering
- actuating
- variable timing
- flashing

Low Priority1. Excessive Traffic

- at most Rotaries
- the Rotary at Routes 5 and 20 in West Springfield is especially problematic.

2. Conflict of Modes

- "Yield to Pedestrian" signs, broad painted lines at pedestrian crossings
- evaluate mid-block pedestrian signals

3. Inconsistent Parking Policy

- Varying parking fees in same area
- Lack of coordination

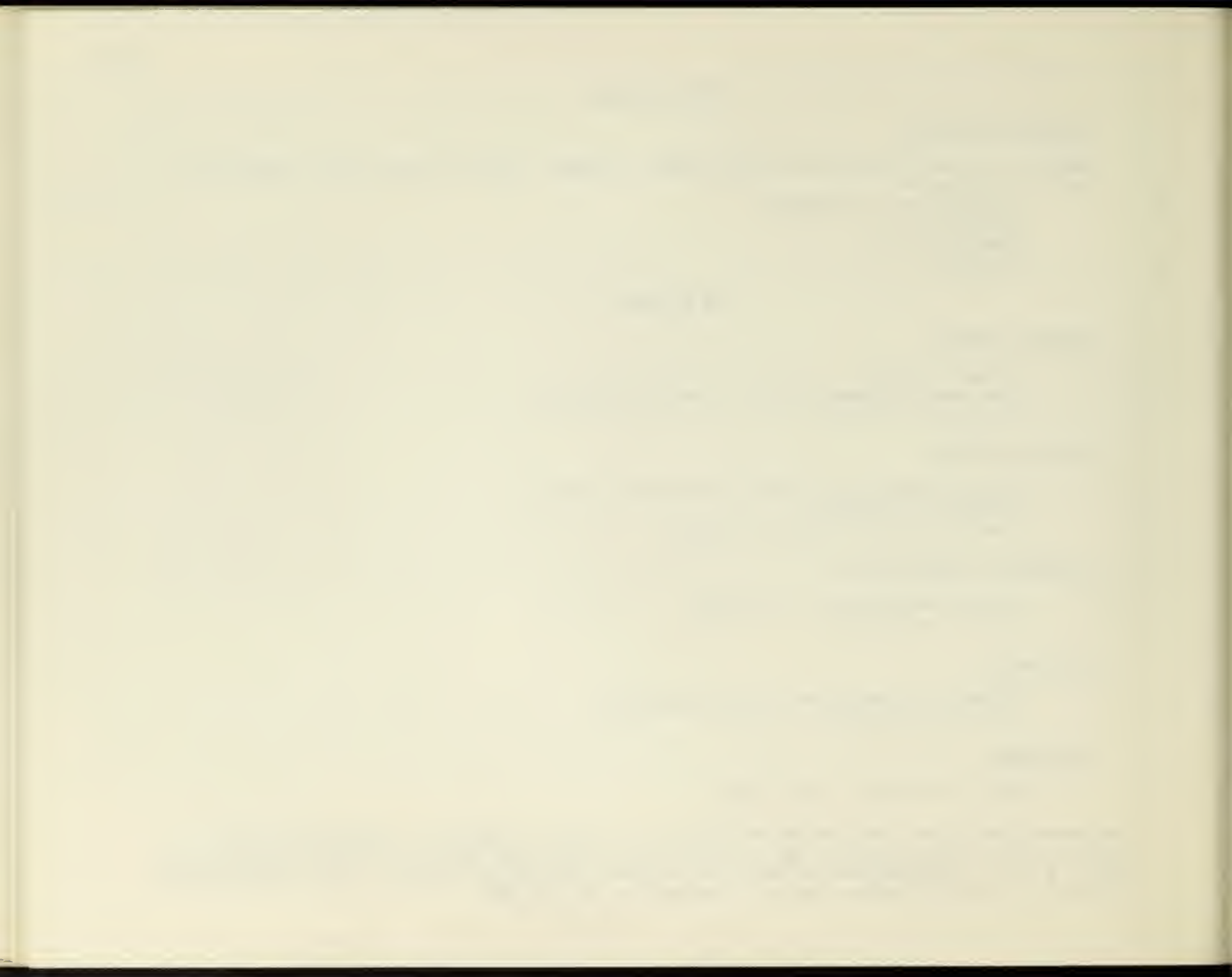
4. Snow Removal

- Improve snow removal at designated bus stops
- Lack of coordination

5. Pedestrians

- Lack of sidewalks on many roads

The current TSME differs from the previous version in a number of respects. In order to ensure that insights gained in the preparation of this TSM Element are not lost, and to guide development of future TSME's, a set of recommendations on format and procedures will now be outlined. These recommendations evolved out of the work achieved during the preparation of this TSME.

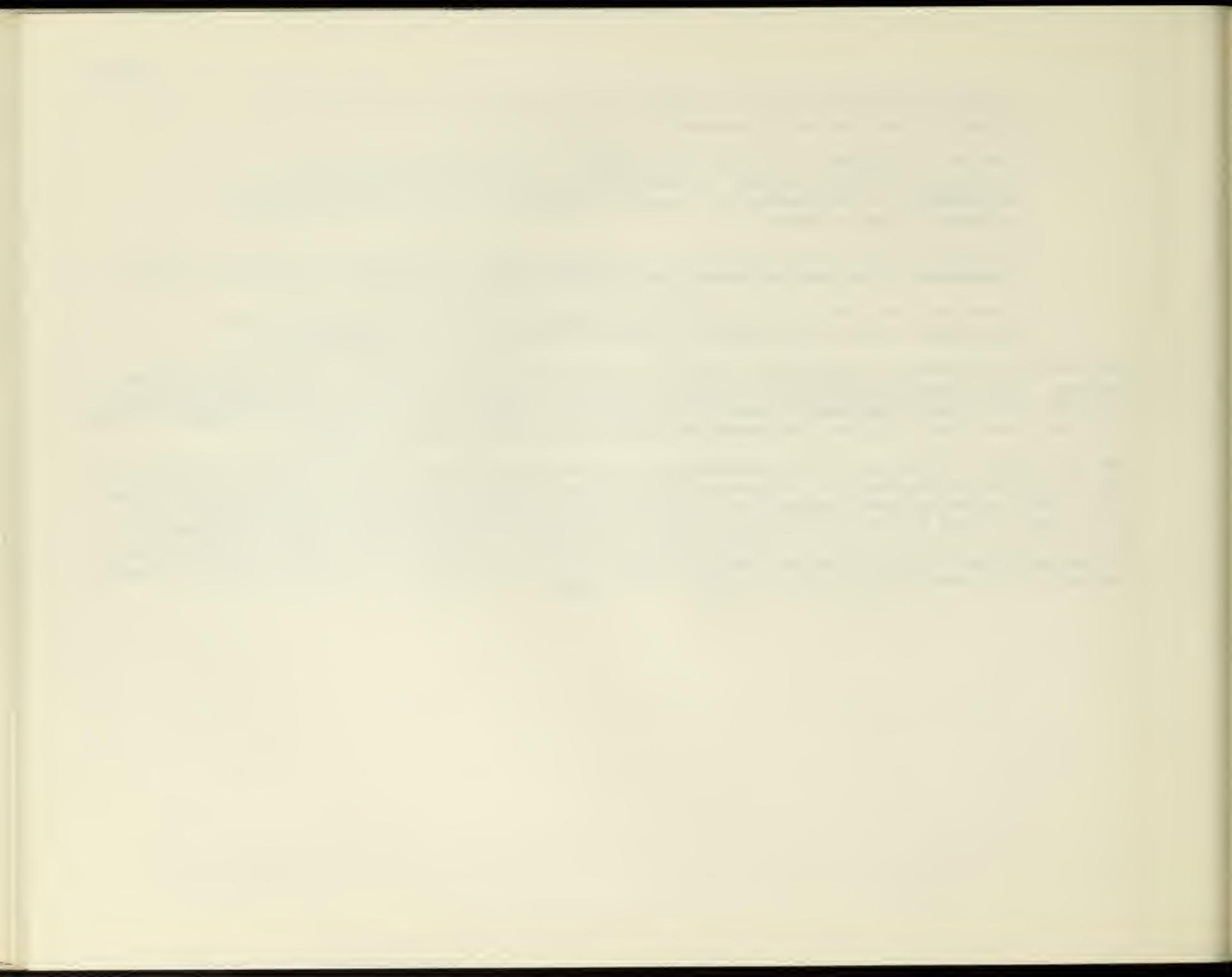




- Use the TSM planning process to identify relevant problems and concurrently to prescribe solutions to be recommended for implementation.
- Continue to utilize a small Task Force composed of individuals representing different viewpoints and areas of expertise to help identify TSM - type problems and, subsequently, to facilitate the successful implementation of appropriate solutions as expeditiously as possible.
- Carry out the TSM planning process on a continuing basis to insure maximum efficiency from the components of the existing transportation system, regardless of mode.
- Ensure that the TSM planning process incorporates monitoring criteria to measure the performance and/or effectiveness of proposed TSM actions which are implemented.

The current TSME contains comprehensive profiles of a set of proposed solutions to highly ranked TSM-type problems. This document is prescriptive, and these profiles represent the portion of the TSME which directs or guides short range transportation planning in the region. However, the outputs of the TSM planning process will result when these solutions have generated specific projects which are implemented.

The next step in this process is the development of detailed project action plans, which have been described. Once these action plans are ready, implementation can begin. Thus these plans, although published subsequent to the TSME, can be considered addenda to the current Transportation Plan. As part of the process of preparing the next TSME for the region, those projects from the current TSME which have been implemented will be evaluated on the basis of the monitoring criteria set forth in the project action plans. By making project evaluations a regular part of the TSM planning process, it will be possible to constantly review and improve the short range transportation planning process in the region.



## Organizational Structure

There are a number of organizations involved in transportation planning in the Lower Pioneer Valley Region. They include private as well as public entities with the funds they expend to provide technical assistance and liaison services originating from a variety of services that include user fees, tax revenues, and grants-in-aid.

The designated role of the transportation planning process is, therefore, to guide these various bodies and their allocation of funds so that the end product of such activities will result in a process that is continuing, cooperative and coordinated.

The following discussion presents a brief description of the more important entities involved either directly or indirectly in the provision of transportation facilities and services in the Lower Pioneer Valley Region.

### A. Municipalities in the LPV Region:

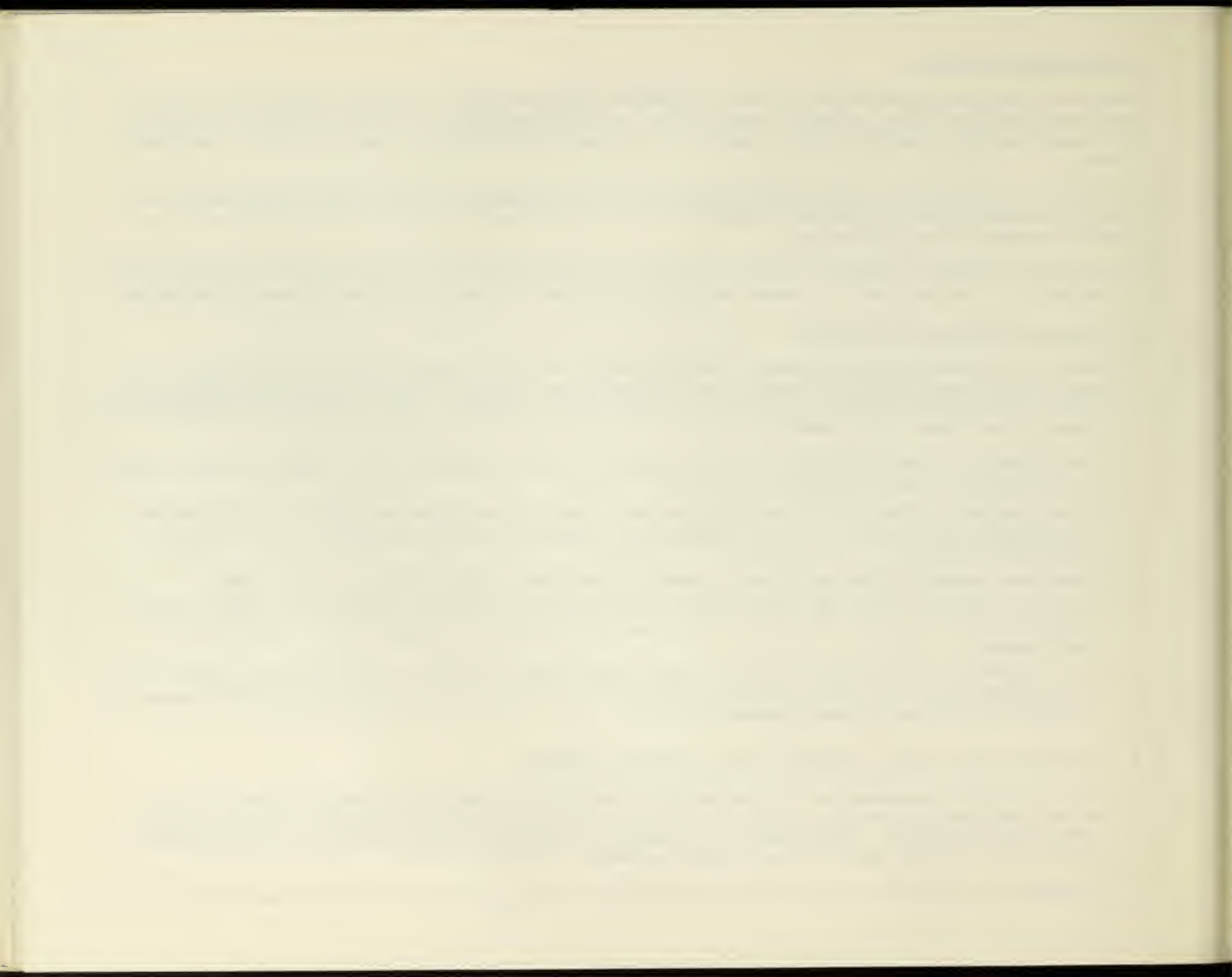
The units of local general government in the LPV Region are its 43 incorporated cities and towns. They have a large responsibility to provide local transportation facilities and services, and a significant portion of each local budget is expended for transportation purposes. These transportation purposes and expenditures include the following:

- Municipalities in the urbanized area of the region are the initiators of Urban Systems projects, which are federally assisted projects.
- More than half of the total 43 municipalities which comprise the region are members of the PVTA and contribute to the support of transit, and in some cases, para-transit, vehicles and services for their jurisdictions.
- Some rural municipalities contribute to special, local para-transit services in their towns.
- All municipalities in the LPV Region are involved in providing school transportation, public services vehicles (such as police, fire and in some areas, trash removal), and local traffic regulation and road maintenance.
- It is important that the municipalities adopt suitable plans, policies, and programs for guiding future transportation and land use improvements in their areas, and that these municipal plans and programs be coordinated with the regional planning efforts.

### B. The Lower Pioneer Valley Regional Planning Commission (LPVRPC)

The LPVRPC is the comprehensive regional planning agency for the Hampden and Hampshire County region in Western Massachusetts, and is a signatory body to the region's Metropolitan Planning Organization for transportation planning. The Commission is charged with preparing a comprehensive plan and including recommendations for land use and transportation systems.

The LPVRPC is also the A-95 review agency for the region. In its role as the comprehensive regional plan-



ning agency, its input to transportation planning should form a broad base to which the more detailed, functional recommendations of other governmental entities can conform.

C. Pioneer Valley Transit Authority (PVTA)

The PVTA is the regional transit authority operating in the Lower Pioneer Valley Region and is also represented on the region's MOP as a signatory agency. PVTA provides, through contracts with 7 operators, transit services and some special para-transit services to 21 cities and towns in the region.

The LPVRPC provides a significant amount of planning support to the PVTA, preparing the Transit Development Program (TDP) and providing for inclusion of transit improvement projects in the TIP and in the TSME and LRE of the transportation plan. The various documents cited should provide a guide for future facilities and service improvements of the PVTA.

D. Joint Transportation Committee (JTC)

The JTC is a committee established by the 3C Memorandum of Understanding to make recommendations to the region's Metropolitan Planning Organization (MPO) and other entities on transportation-related matters. The JTC approves through consensus the transportation plan for the region and the TIP.

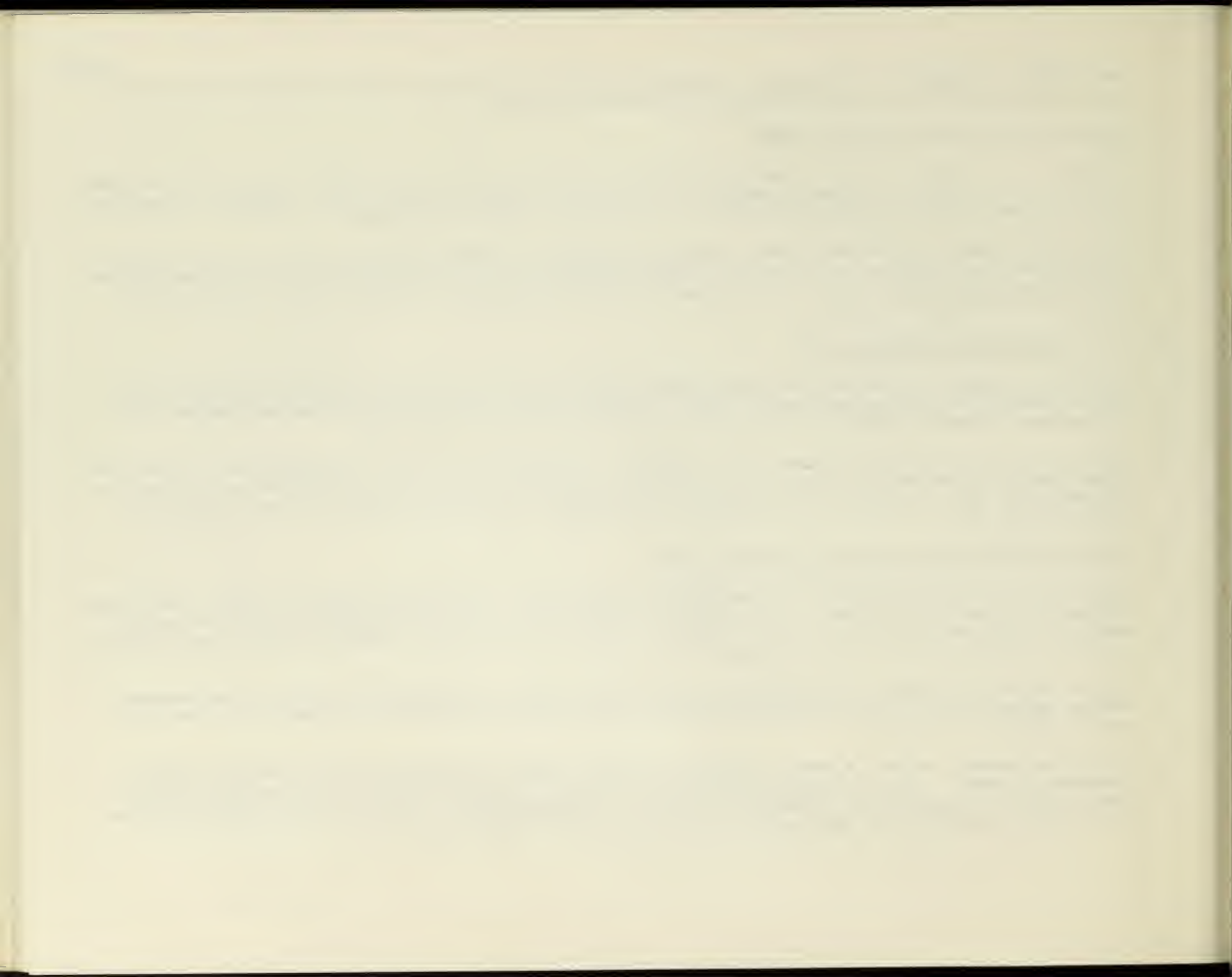
The membership of the JTC is intended to be inclusive. The membership includes representatives of local, regional and state governments as well as transportation related private groups, and individuals. The MPO, in its decisions, usually adheres to the consensus recommendations of the JTC insofar as it can legally and financially do so.

E. LPV Region Metropolitan Planning Organization (MPO)

The four-member organization which implements and oversees the 3C transportation planning process in the Lower Pioneer Valley Region is the MPO. This organization is composed of two Massachusetts state transportation agencies: EOTC and MDPW, and two regional agencies: LPVRPC, and the PVTA. These four agencies are referred to as the "signatories" to the 3C agreement.

The MPO approves and adopts the transportation plan for the region, including all its LRE and TSM elements, and the region's TIP. It also approves the annual work program for transportation planning, and provides policy guidance to the JTC.

The MPO partnership occupies a central position in both the design and implementation of Transportation Improvement Programs. In it, the state and regional entities are brought together to exercise plan decision-making which will bind both the region and the state in a comprehensive, continuing, and cooperative process for providing transportation improvements in the Lower Pioneer Valley Region.





F. The State Government: Massachusetts MDPW and EOTC

Most Federal financial aid for transportation is actually given as reimbursement to the states for their construction of highway improvement projects. The states are thereby a key element in the nation's transportation improvement process.

In Massachusetts, the agencies most responsible for transportation improvement activities are the Massachusetts Department of Public Works (MDPW) and its parent organization the Massachusetts Executive Office of Transportation and Construction (EOTC). Both of these agencies are also signatories to the 3C process in the LPV region.

The MDPW has a somewhat more active role than EOTC in that MDPW is charged with engineering and implementation of highway-related projects. This agency also prepares the State Program of Transportation Projects which is submitted to the FHWA for approval and funding.

The preparation of the state program of projects, together with the establishment of priorities for projects, is the most important planning control at the state level. This program is based on the annual elements of the approved TIP's of each region. Until the state completes development of a long-range plan, this annual program serves as the statewide document for coordination of the transportation planning activities of the several regions and is, therefore, the focus of efforts at harmonizing regional and state activities in transportation planning.

In addition to federal funds, the state spends a large portion of its own available funds on transportation improvement projects. The Federal-Aid system highways in Massachusetts are maintained with state and local funds.

The Massachusetts Turnpike is funded entirely through tolls administered by the State Turnpike Authority, without federal assistance.

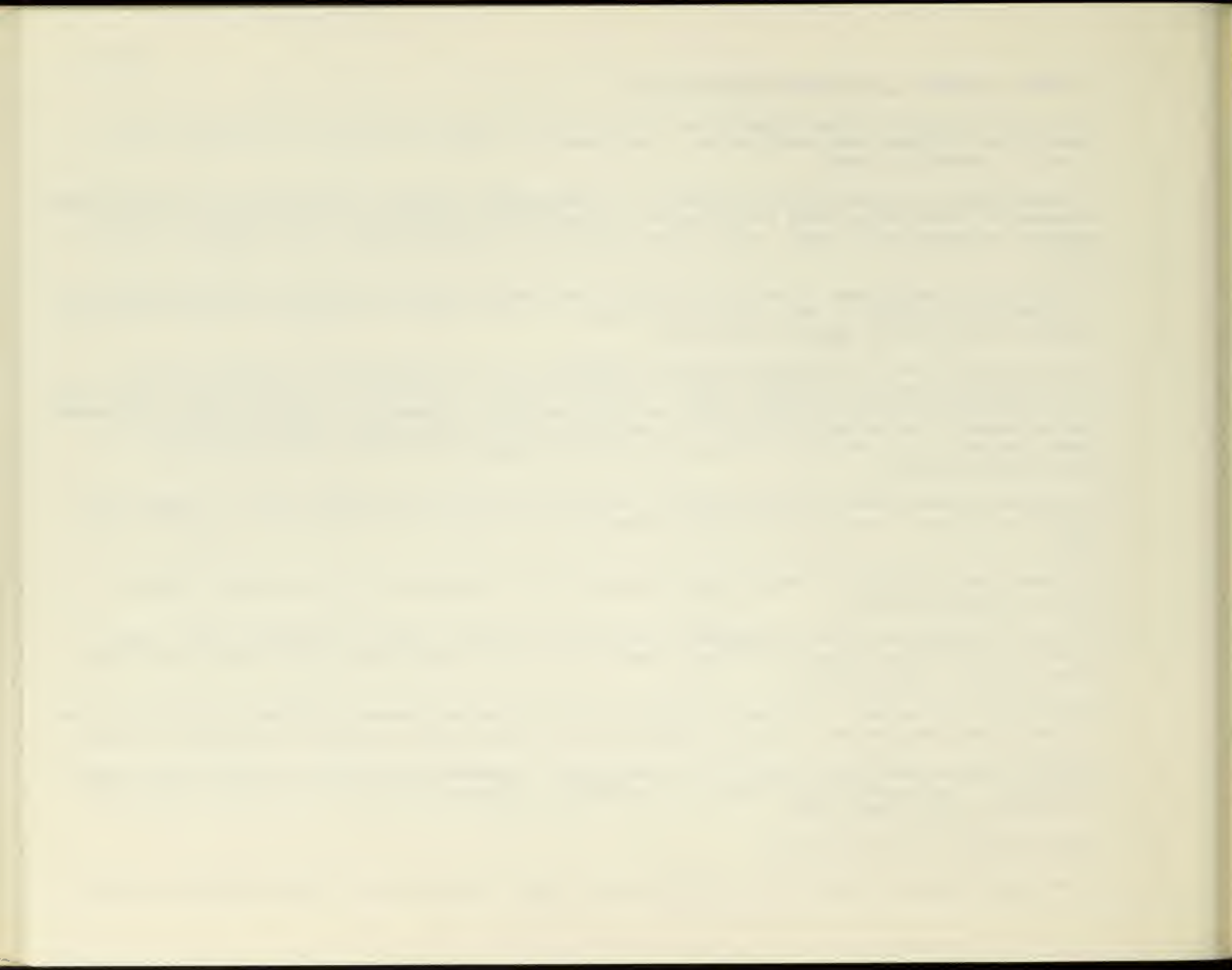
The State's Metropolitan District Commission (MDC) owns and maintains roads on its lands--in this region, in the vicinity of Quabbin Reservoir. Massachusetts State forest roads and many small access ways are maintained by various state agencies.

Massachusetts also provides assistance to municipalities for some local street improvements as well as providing funding assistance for mass transit, bikeways, school transportation, and special para-transit services.

The State of Massachusetts also plans for rail and airport transportation and supports rail services on some branch lines. The coordination of these many transportation improvement efforts, is now being accomplished to a degree at the regional level.

G. Federal Agencies: U.S. DOT and HEW

At the highest level of transportation assistance, the Federal Government and its agencies develop national



and state transportation policies and the funding of transportation system improvements. The most influence is exercised through agencies of the U.S. Department of Transportation (DOT), but the U.S. Department of Health, Education, and Welfare (HEW) also provides transportation assistance, and certain other agencies also plan important supporting roles.

1. DOT - The U.S. Department of Transportation administers and coordinates highway, transit, air, and rail planning at the federal level and a substantial number of assistance programs to state and local governments. It has established for each Federal Region an intermodal advisory and coordination group to guide its activities. The New England Region Intermodal Planning Group (IPG) is composed of the regional secretariat representatives of DOT and representatives of FHWA, UMTA, FAA, USCG, and FRE - all DOT agencies.
  - The Federal Highway Administration (FHWA) provides 75 percent funding assistance for Federal-Aid Primary and Secondary highways, Urban Systems projects in local municipalities, and Priority Primary Projects. It also funds 90 percent of the cost of Interstate System projects and provides assistance for the 3C transportation planning process.
  - The Urban Mass Transportation Administration (UMTA) provides financial assistance to the transit planning process and funding assistance for capital equipment and operations of the state's regional transit authorities. Besides assisting regular transit services, it also subsidizes para-transit services for the elderly and handicapped.
  - The Federal Aviation Administration (FAA) provides funding assistance for airport planning and construction.
  - The Federal Railroad Administration (FRA) does not have funding programs, but does develop federal rail policy, plans, and safety regulations which govern rail operations in the state and LPV region.

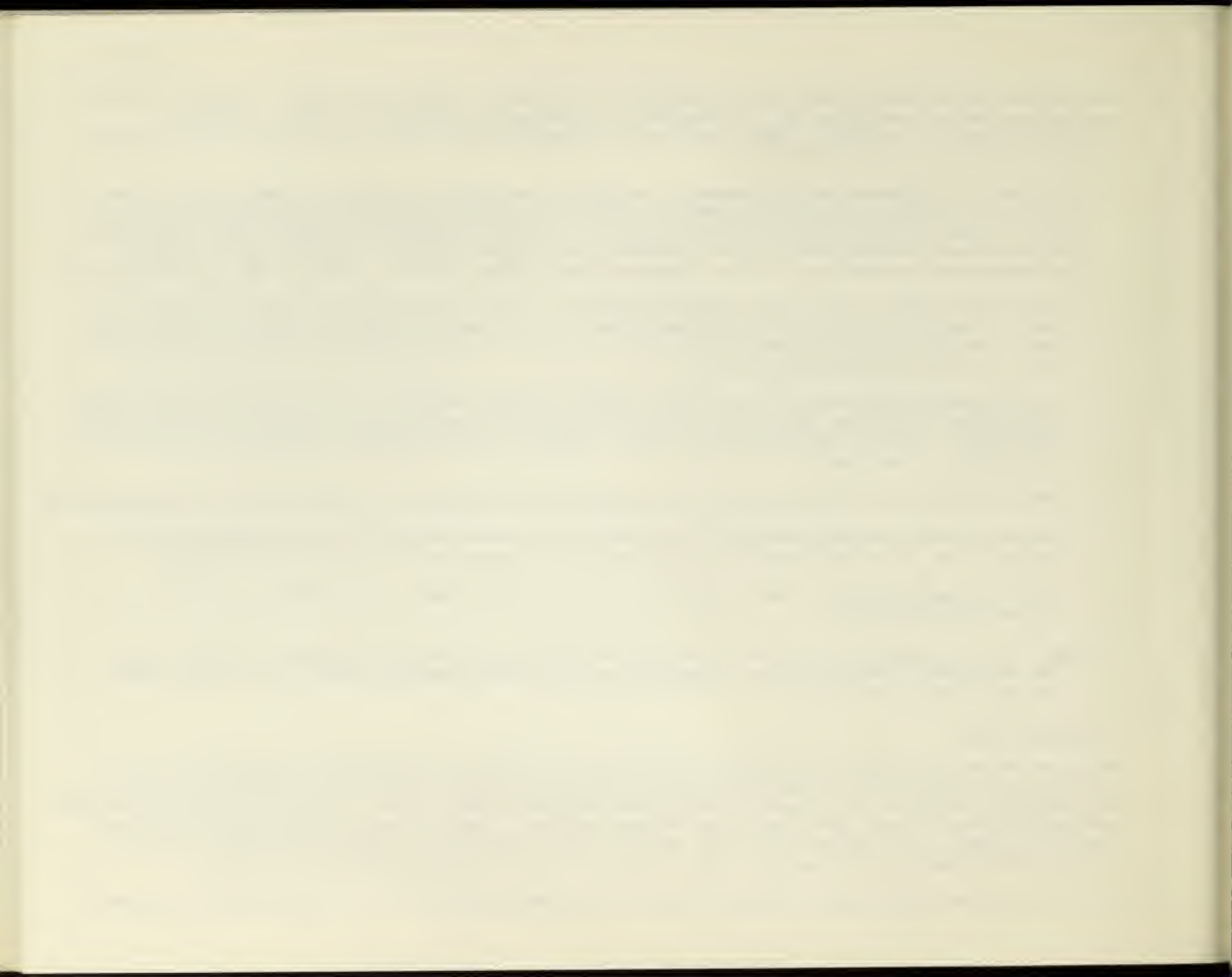
Since the region is located well inland, the U.S. Coast Guard (USCG) is not directly involved in its transportation planning.

2. HEW - The U.S. Department of Health, Education, and Welfare provides some assistance to transportation for the elderly, medical services transportation, and community services operations. Most of these are para-transit services.

#### H. Planning Controls

There are two major planning controls for transportation projects, the Transportation Plan and the Transportation Improvement Program. The Transportation Plan for the region, as discussed earlier in this document is composed of two parts: The Transportation Systems Management Element (TSME or Short-Range planning Section; and the Long-Range Element (LRE), which this document comprises. Proposed transportation projects for the region are usually first entered into either the TSM or LRE, to then be reviewed for approval by the Joint Transportation Committee which includes local, regional and state transportation planning bodies.

A more significant transportation planning control for proposed projects in the Transportation Improvement



Program (TIP) for the region. The TIP has essentially replaced the A-95 review process as a planning control mechanism for transportation projects. All transportation projects in the region receiving federal financial assistance must be included in the TIP and that document must then be reviewed and approved by the region's JTC in an annual review procedure.

K. Other Transportation Planning and Service Entities

Those transportation improvement implementing powers cited thus far are public and governmental entities. There are, however, other public as well as private entities which are important in the operation and improvement of transportation facilities and services in the region.

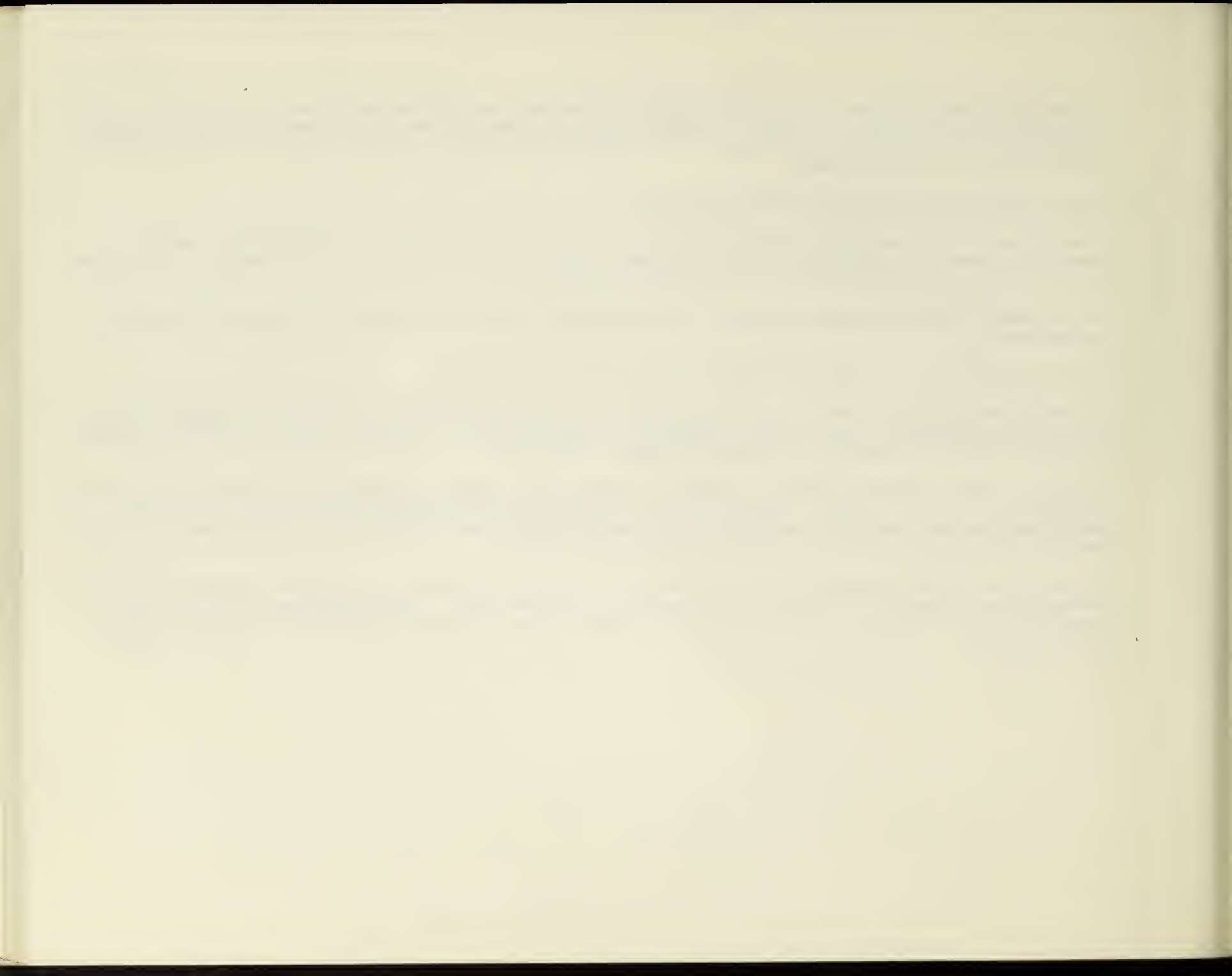
On the federal level are AMTRAK and ConRail, the operators of national passenger and freight rail services, respectively.

There are several private rail and truck freight carriers in the region.

A growing number of social and human service agencies in the LPV region whose operations are regulated by the I.C.C. are involved in para-transit operations. Some of these are overseen through A-95 review process, but many are private operators, not receiving federal assistance.

Coordination with neighboring planning regions in Western Massachusetts and northern Connecticut is presently incorporated in the LPV region's planning process. Cooperation with agencies in the State of Connecticut, particularly the Hartford CROCOG regional planning body are particularly important for implementation of certain interstate/inter-regional facilities and services proposals.

The first part of this section of the LPV Transportation Plan has outlined the major LRE transportation decision-making, financing, and administering agencies in the LPV region. The second part of this section presents the project description of the twenty Long-Range Element projects of the 1980 Transportation Plan for the Region.





THE TRANSPORTATION LONG RANGE ELEMENT

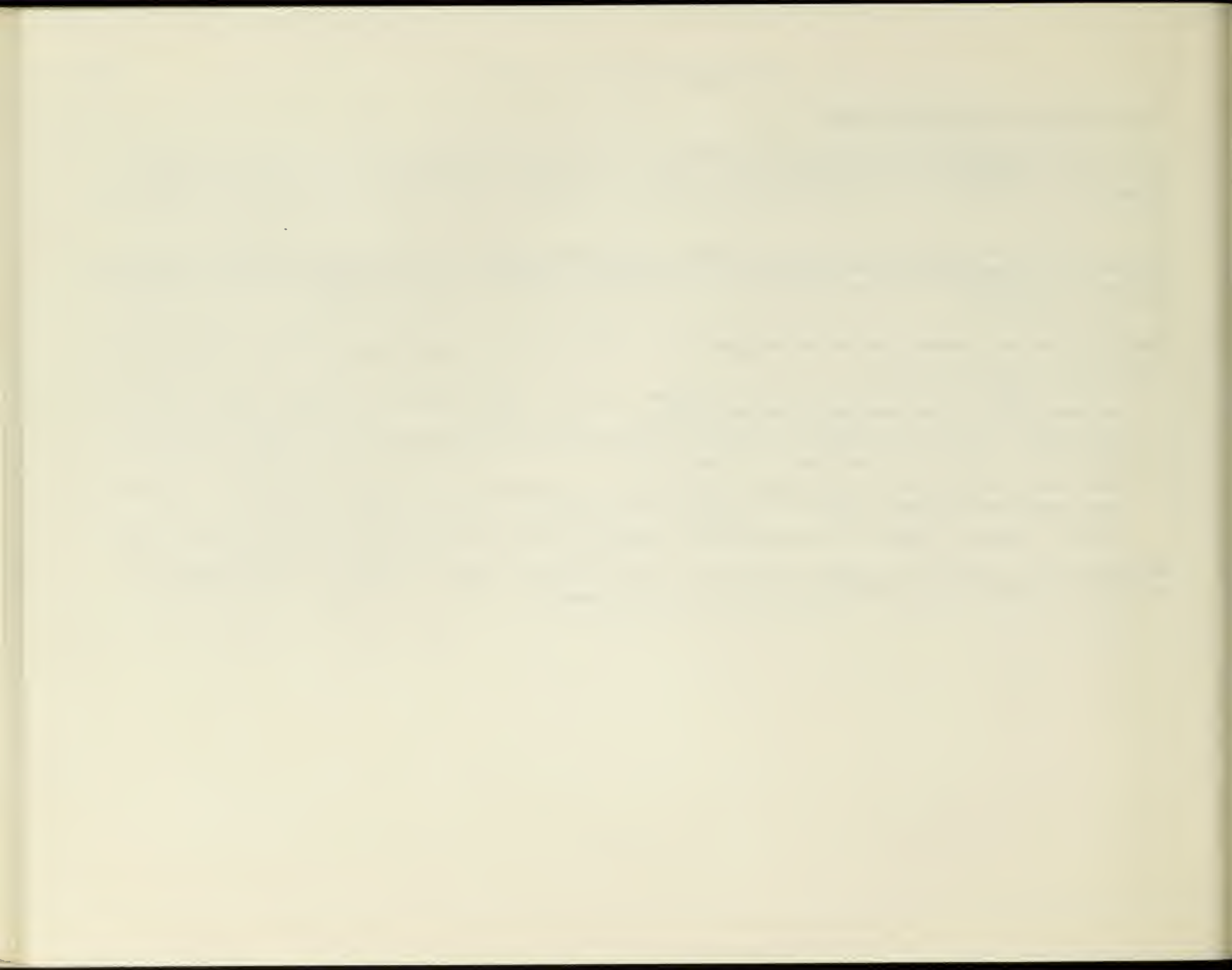
The Long Range Element of the Regional Transportation Plan is intended to provide for the long-range transportation needs of urbanized areas such as the Lower Pioneer Valley Region. Identified in the LRE are major new transportation facilities to be constructed, proposed major changes to existing facilities, and long-range policy options.

The LRE is designed to serve as the region's general development program for all major transportation projects proposed for implementation in the upcoming 8-10 year period. Projects of all the region's transportation modes are included provided that the proposed projects are capital intensive, regionally acceptable, and not presently under construction.

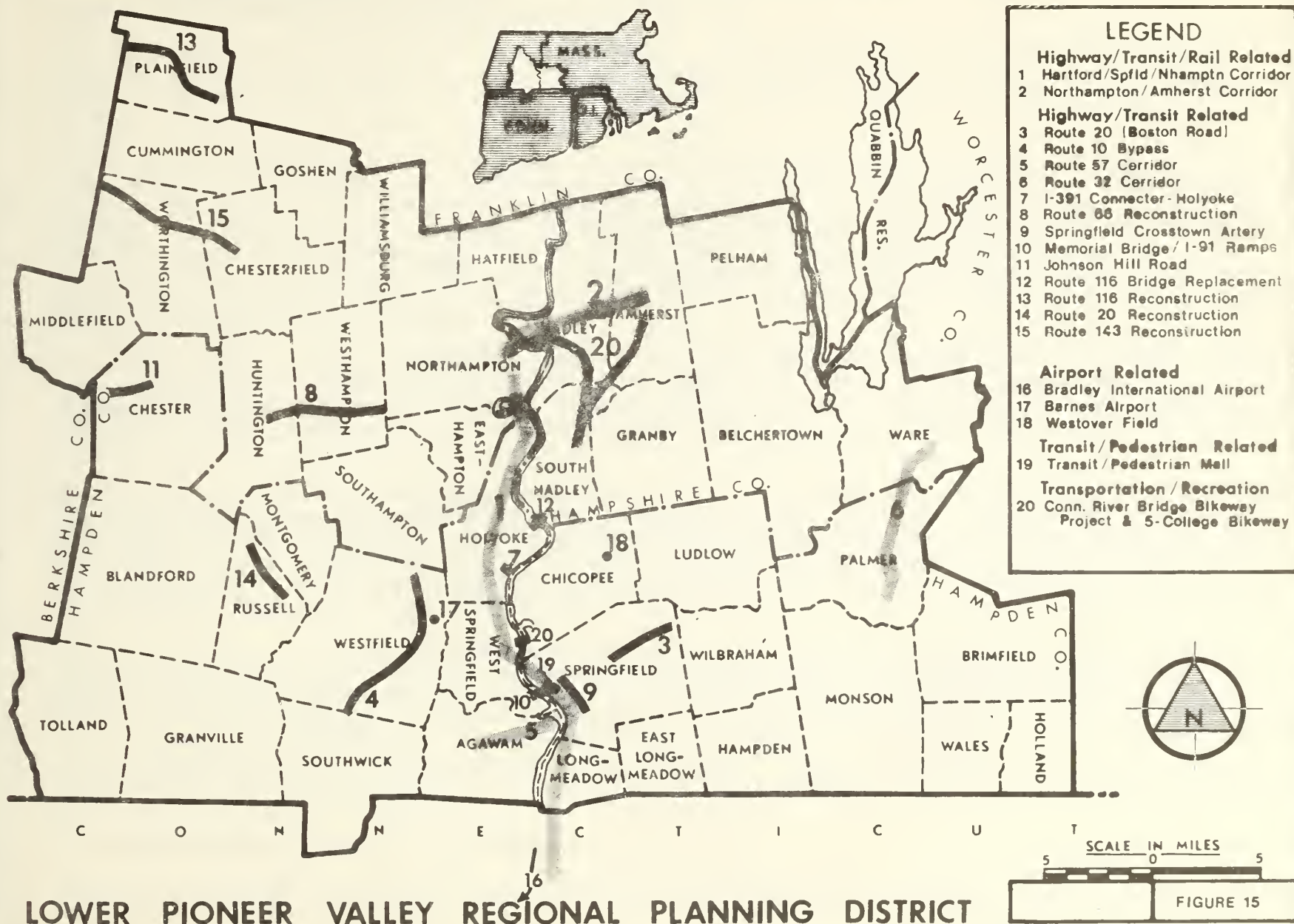
A method of project proposal review was designed which compared such proposals against significant components of the long-range planning process.

- First in importance was an evaluation of a proposed project's compliance with the adopted goals, policies, and objectives of the long-range planning process.
- Second was a review of the planning document and studies which proposed the project or which presented information relative to the suitability of the project.
- Third was a consideration of the project relative to the priorities of the various planning and implementing entities of the local, regional, state and federal levels.
- Finally, potential impacts of the project were examined, including environmental and socioeconomic impacts.

Following such a review by the LPVRPC staff and the AD HOC Long-Range Element Subcommittee, recommendations of projects were made to JTC for inclusion in the Long-Range Element.



# LONG RANGE ELEMENT PROJECT PROPOSALS (1980)







Highway/Transit/Rail Corridors:1. Hartford/Springfield/Northampton Highway-Transit Rail Corridor

This major north-south interstate transportation corridor actually consists of three major surface transportation facilities. The two major highway and single rail facility that makes up the transportation corridor links the Springfield/LPV Region to Franklin County in Western Mass. and the nearby states of Connecticut and Vermont. (As well as more distant north and south points).

The principal highway facility in the corridor is Interstate 91 which carries a heavy traffic load (46,000+ vehicles/day), through and into the Springfield downtown area. The largest portion of the traffic using I-91 is intra- and inter-regional commuting and commercial traffic primarily bound for the LPV Region's large urban centers of Springfield, Chicopee, Holyoke, and Northampton. State Route 5, the other major highway in the corridor still carries a sizable, yet primarily intra-regional traffic volume of 12,000 vehicles/day in its most heavily traveled southern section. There is also substantial commercial development along the southern portion of Route 5, but adequate traffic flow is maintained and turning movements restricted by a raised median (guard rail) along much of its length.

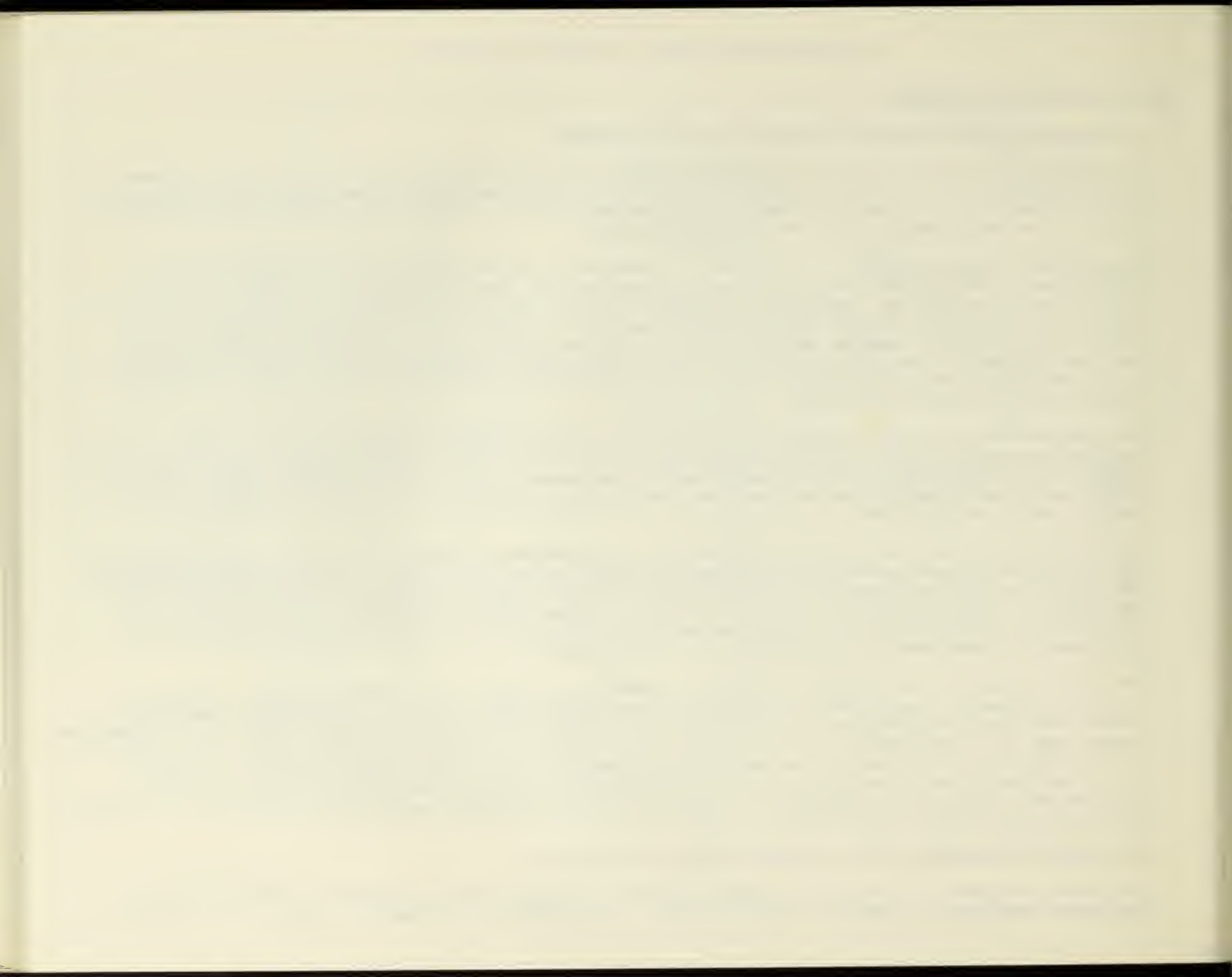
The double-tracked rail line is AMTRAK and ConRail's main north-south line through central New England. AMTRAK stops in Northampton, Springfield, and Hartford, (just south of the region) provides inter-regional, as well as international AMTRAK service (from Montreal, Canada to Washington, D.C.). Frequent AMTRAK commuter service from Springfield south to Hartford and on to New Haven and New York is provided at a regular interval of ten (10) trains a day in each direction.

The expected continuation and deepening (rising prices and shortening supplies) of the fuel crisis is increasing the utilization of intra-regional interstate public transit bus and rail service. In the Hartford-Springfield Northampton corridor improvements to the interstate and highway system will facilitate more efficient use of the roadway by buses and carpools, as well as private autos and commercial vehicles. Upgrading of rail service in the corridor will facilitate intra-regional and interstate travel by an energy-efficient mode that is not as dependent as other modes on the region's fuel supply network.

The major LRE needs in this corridor include the following: 1 - Widening and roadway alignment improvements of I-91 in Connecticut, particularly from Bradley International Airport south to Hartford, and ultimately from Bradley north to Springfield (exclusive bus/carpool lanes should also be considered for inclusion), 2 - Interstate highway ramp system improvements to I-91 in Springfield particularly for the Connecticut River bridge connections 3 - The locating of an information/rest stop on I-91 somewhere near the Massachusetts-Connecticut border, 4 - An extension of Amtrak commuter rail service from Springfield north to Northampton, with interim stops in Chicopee, West Springfield, and Holyoke, 5 - Upgrading of Amtrak terminals particularly in Springfield and Hartford to encourage continued and increased rail use.

2. Northampton/Hadley/Amherst Route 9 Highway-Transit Rail Corridor

The traffic assessment in the 1977 Long Range Element for the region that "Considerable traffic moves between Northampton and Amherst (on Route 9), but the adverse environmental and socioeconomic impacts to ease this





flow or to accomodate increased flows abrogate against implementing the SUACTS proposal of a new Route 9" continues to be valid. Between 1976 and 1978, Average Daily Traffic on Route 9 between the largely college communities of Amherst and Northampton increased 6% (from 21,864 to 23,106 vehicles/day). This traffic is expected to continue to rise due to growth of both the two college communities and the expanding commercial area between them. Possible solutions to accomodating this traffic on the existing 2-4 lane state highway appear to remain limited.

The opening in late 1978 of an 80 store regional shopping mall on Route 9 in Hadley created an additional traffic burden on the already well-traveled highway. The shopping center, due to both its size (600,000 square feet) and its location (on a restricted access, guardrail-divided section of the highway), was both closely examined by the Regional Planning Commission with regard to the land-use, traffic and air quality impacts of the center. The Commission's recommended alternative for contending with the center's generated traffic was consideration of an access road and widening improvements for the section of Route 9 with extensive commercial development. (A SUACTS Plan proposal for a major relocation of Route 9 north of its present location was ruled out due to potentially adverse environmental and land use impacts).

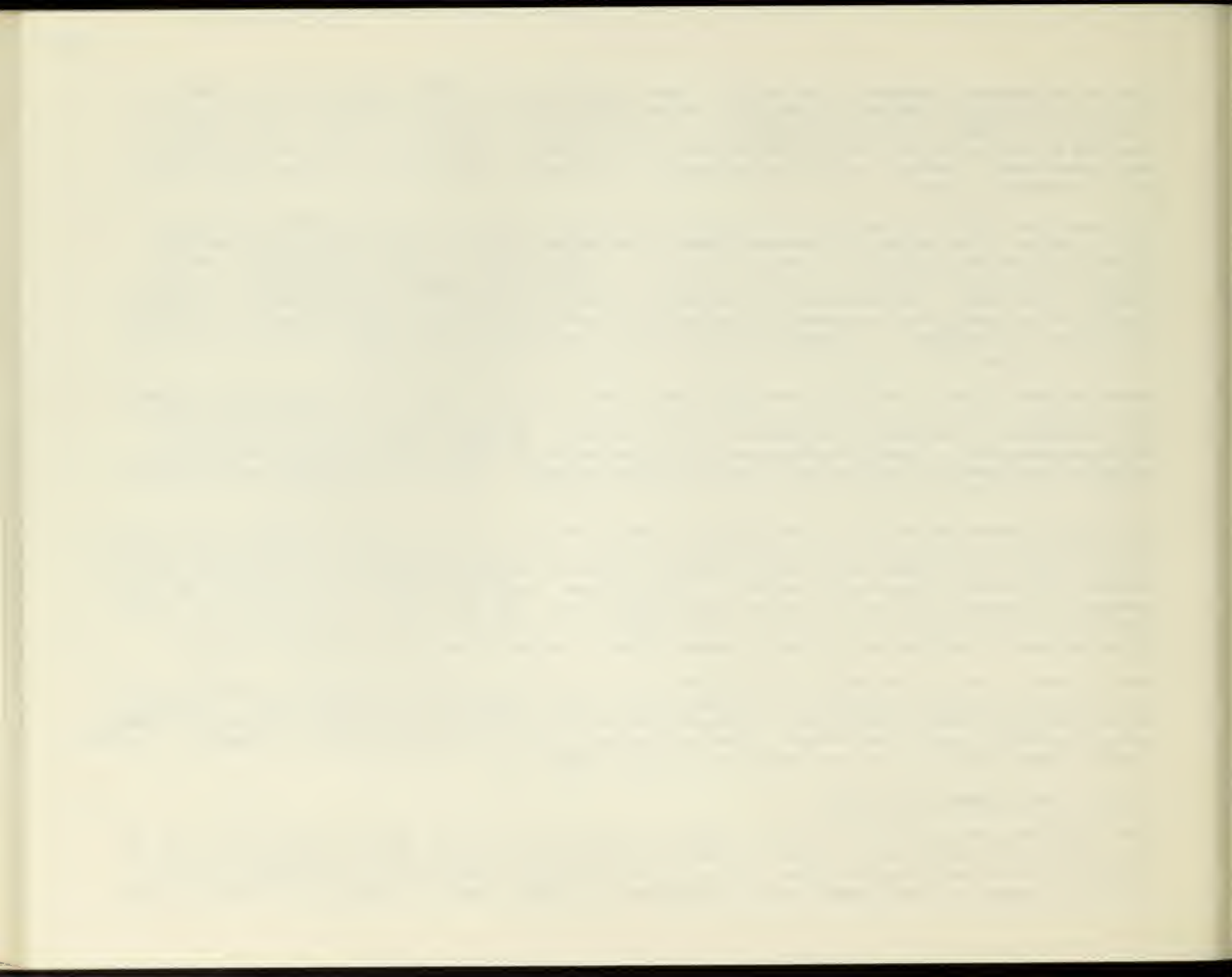
Extensive transit service that might serve as a partial Route 9 traffic solution, has existed on the highway for some time. However, the restriction (until recently) of 5-College Transit to serving college students only and campuses in Northampton and Amherst (and South Hadley), and other PVRTA bus service along Route 9 which does not stop in Hadley because the town is not a member of the PVRTA. In the summer of 1978, the town of Hadley reaffirmed its position not to join the Transit Authority. However, this decision was reversed by the Hadley Town Meeting in early 1980 with an affirmative decision to join the PVRTA district.

The existing Boston and Maine rail track and rail right-of-way that essentially parallels Route 9 on its north side provides some other potential transportation solutions in the corridor including a long-range possibility for shuttle rail service between Amherst and Northampton (linking to proposed Northampton-Springfield and existing New Haven-Springfield commuter rail service). A shorter range possibility is the potential development of a bikeway as a shared use of the rail and/or highway right-of-way. The feasibility for a bikeway being successful in the corridor includes: the large college community in the two communities, a correspondingly large number of bicycles owned by students, and the rather moderate distance and grade changes along the rail corridor.

The LRE proposal for the Northampton-Hadley-Amherst Route 9 corridor, therefore, consists of a multiple-element plan. First, minor road improvements at several critical points, particularly at intersections and commercial areas along the corridor. Second, the improvement and expansion of transit service (including Hadley's membership in the PVRTA) should be implemented. Third, the B&M Rail track in the corridor should be studied for possible commuter/travel uses including bicycle and rail passenger operations.

### 3. Route 20 (Boston Road) Springfield

Route 20/Boston Road, an historic and major regional highway route in the LPV Region since as far back as the late 1600's (when it provided the first link between Springfield and Boston) continues today to be a heavily traveled intra-regional arterial highway. While the entire length of Boston Road in Springfield contains a substantial amount of strip commercial-type development, the Route 20 section of Boston Road from Pasco Road



to the Wilbraham/Springfield line has the most intensive traffic problems. This section of Route 20 includes two major regional shopping centers as well as several large individual businesses, and many smaller ones.

The 1969 SUACTS Plan for Route 20 proposed an arterial, freeway-type extension of roadway from I-291 (where it bends north to join the Mass. Pike) eastward to Wilbraham. The SUACTS proposal was determined obsolete by the 1977 Long-Range Element of the Transportation Plan due to its potentially high cost and adverse environmental impacts, and because an industrial park had been constructed in the path of the proposed highway. Therefore, the section of Route 20 that is under examination for traffic-related improvements is that section from Bay Street/Breckwood Boulevard in Springfield easterly to the Wilbraham town line.

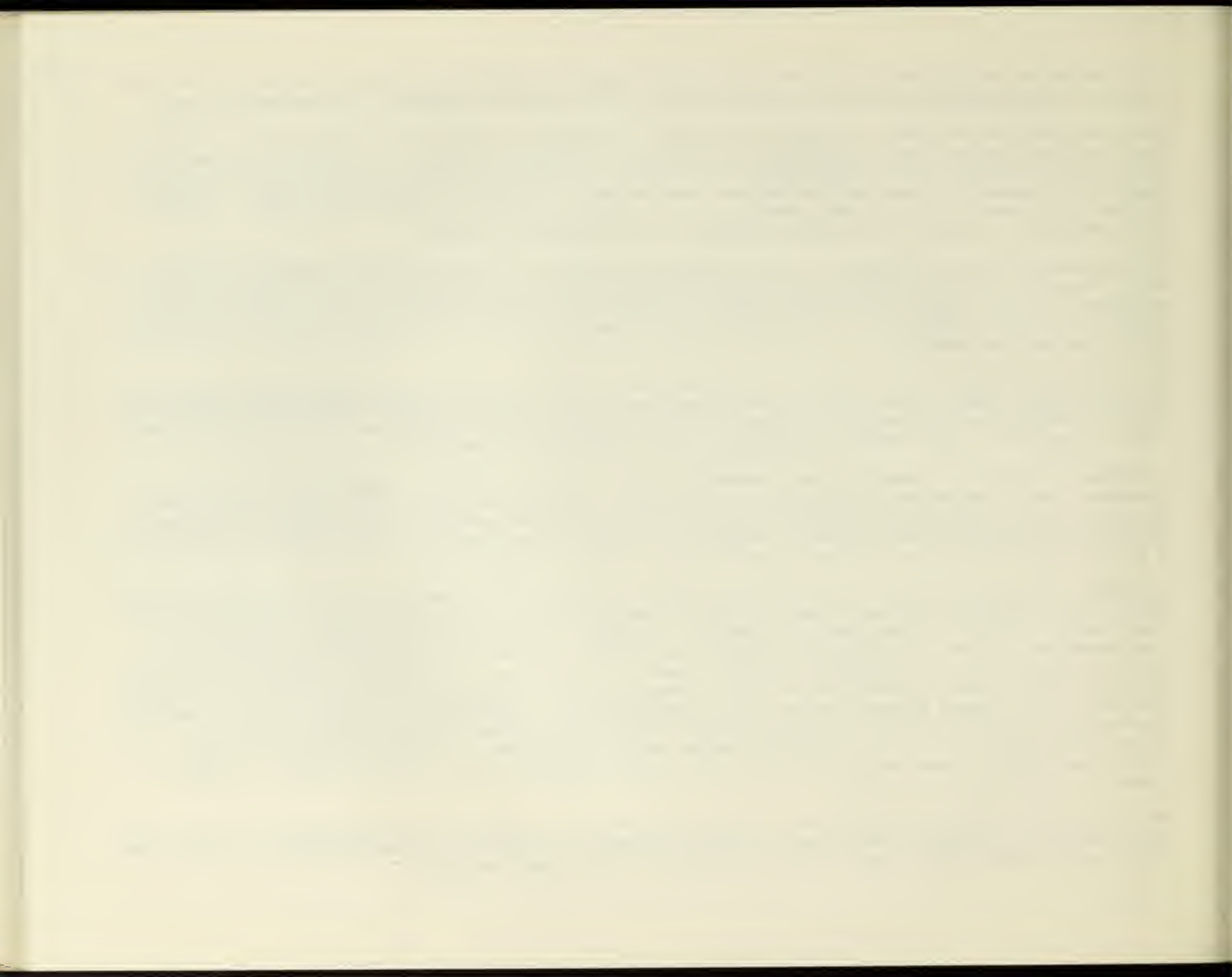
A traffic analysis of the corridor by Wallace-Champagne Associates in 1977 recommended a 2-phase improvement process. Phase I, the higher in priority, encompasses highway improvements from Pasco Road to the Springfield/Wilbraham line with a price tag for improvements that could reach up to \$8 million. The section of Route 20/Boston Road from Bay Street/Breckwood Boulevard to Pasco Road was defined as a proposed Phase II, delayed program of roadway improvements.

For the section of Boston Road/Route 20 that was included in the Phase I program of improvements, four improvement alternatives were outlined. Two of the alternatives were for a 4-lane median divided highway, the one having a 92' right-of-way and the other a narrower 82' ROW. The other two alternatives were for 4-lane roadways with a flush 16 ft., 2-way turning lane median of right-of-ways of 92' and 100'.

The impacts of all the alternatives were assessed, and all involved substantial residential and commercial displacement. Among the various alternatives, 11-16 residential properties, and 14-22 commercial establishments would have to be relocated and additional properties would have to be taken if a grade separated (depressed) crossing of Parker Street were included in the project. Limited transit service in this corridor is provided by 2 Longueil Transit (Routes #401 and #403) and one express Peter Pan Route (#502).

The Route 20/Boston Road project (both Phases I and II) is currently in a state of impasse and has been withdrawn from the Project Development Phase. Though the proposal has not been subsequently advanced, it is still considered to be active in the planning stages due to impasses over certain changes made to the project, and the generalized need for improvements to be made. One is that the Phase II (Bay Street/Breckwood Boulevard to the Pasco Road) section of the project has been dropped to a low status, very long-range aspect of the project. Second, a 4,000' element of Phase I of the project, extending from the Wilbraham town line 4000' into Wilbraham has been totally dropped from the project due to probable adverse residential area impact and cost. The preparation of a Negative Declaration Assessment Report for the proposed Route 20/Boston Road project was halted in May 1979 basically due to the large environmental impacts identified. At present, it remains unclear whether the MDPW will reactivate the Phase I portion of the proposed Route 20 project despite continued interest on the part of local officials.

The LRE Transportation Plan Proposal from Boston Road/Route 20 is, therefore, for that section of highway from Pasco Road to the Springfield/Wilbraham town line, and involves traffic and/or transit solutions to the present and probable future traffic congestion in this section of the highway corridor.





#### 4. Route 10/202 Bypass

The proposal for the Route 10/202 Bypass of the Westfield Central Business District originated from the 1969 SUACTS Transportation Plan for the LPV Region. The Route 10/202 Bypass was one of several proposed arterial bypasses of urban centers in the SUACTS plan for the LPV Region. The principal intended purpose of the arterial bypasses of the core areas of the region's urban centers was to relieve core areas of the burden of existing and projected through traffic in these centers.

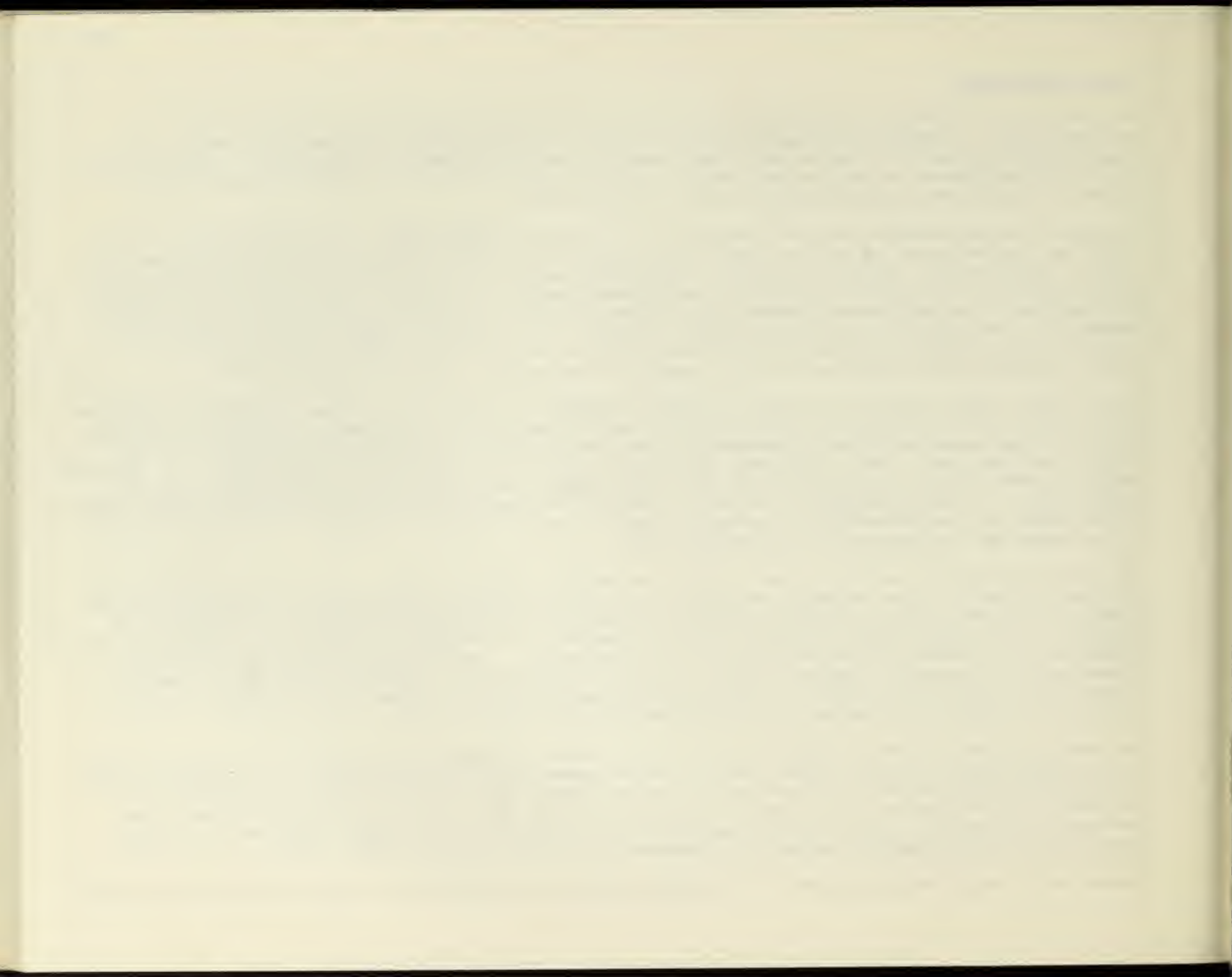
The Route 10 Bypass proposal was also included in the initial Long Range Element Transportation Plan proposal (1977) for the LPV Region and was described in that document as "one of the proposals of SUACTS which can continue to be supported." The project at that time had local support, and "anticipated adverse environmental impacts appeared to be tolerable in relation to anticipated benefits." The Route 10/202 proposal in the initial LRE consisted of the improvement of Route 10 from where it enters the region at the Connecticut State line in Southwick to just north of Nicholson Mill Road in Southwick. A new arterial roadway was then proposed to be constructed from Nicholson Mill Road, passing west of the Southwick and east of the Westfield town centers, and would re-connect with the existing Route 10 in Westfield just south of the Southampton town line.

At that time, however, there still existed a number of problems in locating the precise alignment of the Bypass through the area, particularly through the developed area of Westfield. Any alignment evaluation of the impact of the proposed bypass would have to address the impacts on the Westfield Central Business District, Barnes Airport, and developable areas of the City. Additional concerns of the Bypass design that needed to be addressed were environmental design and impacts involved with the Bypass crossing rivers, steep slopes and already developed areas. It was recommended in the initial LRE that the planning of the project over the long term should be continued, and a location for an acceptable alignment should be eventually achieved. The Southwick portion of the bypass was also dropped due to local opposition.

The traffic engineering consultant firm of Vollmer and Associates was retained in 1977 to identify design and cost options (which utilized extensive rail right-of-way) for the proposed roadway which were presented in the form of a Draft EIS in 1977. The proposed bypass as developed and presented by Vollmer would accomplish the following: (1) through-traffic reduction in Downtown Westfield, (2) traffic reduction on local streets such as Meadow and Union Streets, (3) the flow of traffic at the Westfield Turnpike entrance would be eased by the elimination of cross-traffic turning movements, (4) anticipated additional traffic on Route 20 as a result of diversion from Route 10, (5) general traffic reduction along Route 10, (6) a new bridge crossing of the Westfield River to carry over a quarter of the north-south traffic in the corridor.

The Westfield Planning Board reviewed the plans for the bypass in August 1978 and concluded "it is the opinion of the Planning Board that the concept proposed is most probably not feasible because of its substantial impact on neighborhoods and the pattern of land acquisition which would make land improvement costs prohibitive in the East Main Street Section". It was noted that traffic patterns and problems in Westfield have been altered substantially since 1972, when the Bypass possibilities first began to be explored. The growth of industry particularly along Southampton Road has also generated increased north to east traffic flow.

Another major concern about this plan for the proposed Bypass is a major change in monthly Average Daily Traffic





total on Route 10/202 noted in traffic counts at the Southwick/Westfield boundary. While traffic had increased 35% between 1974 and 1976 (from 6417 to 8833 vehicles/day), just prior to development of the 1977 LRE, the average daily traffic volume has dropped 15% between 1976 and 1978 (from 8833 to 7378 vehicles/day).

In place of the proposed 4-lane Bypass, the Westfield Planning Board has recommended specialized alternative bypasses. One is a 2-lane north to east limited access connector route from Route 20 to the Mass. Turnpike entrance. This route would generally follow the Boston & Albany Railroad line from just east of the Route 20 crossing of the Westfield River to Union Street. After crossing Union Street, the roadway would parallel the north side of Powdermill Brook, and then would cross to the west side of Route 10/202 where it would link to the Mass. Turnpike.

The second limited-access 2-lane Bypass is essentially a north-south connecting Route 10/202 south of the Westfield CBD to the Mass. Turnpike. This proposed bypass would extend east from Route 10/202 just south of Hundred Acres Road, and then would generally parallel the south side of the Little River east to the crossing of Powder Hollow Road. The route would then extend north along railroad ROW to a connection with the Mass. Turnpike where the nother to east connector also would access the Turnpike.

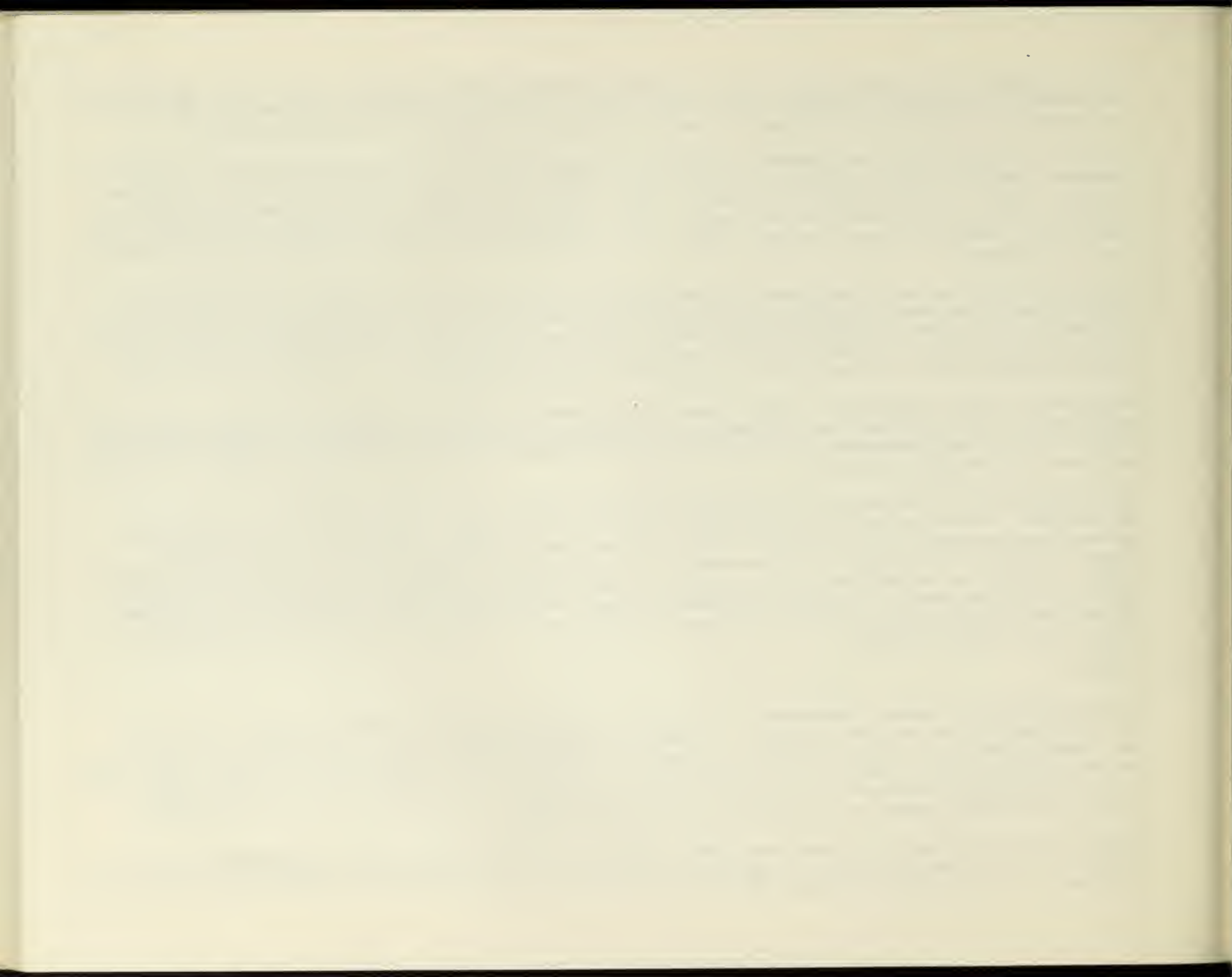
Opposition to these limited-access bypasses has, however, developed from two Westfield businesses. The H. B. Smith Company, and the Columbia Bicycle Manufacturing Company are particularly opposed to the North-South bypass due to its heavy dependence on railroad ROW which the industries felt would severely hamper their supply and industrial shipping operations.

As outlined above, a wide range of alternatives exist with respect to the construction of a Route 10 bypass in Westfield. However, rapidly changing transportation and socioeconomic conditions within the study area now make the identification of a preferred alternative impossible within the context of this Long Range Element document. Accordingly, it is recommended that all improvement options, including the no-build alternative, be subjected to additional analysis before a final determination is made as to which of the various options will be advanced to the project development phase. Such analysis must address potential environmental and socioeconomic impacts of each improvement option as well as the basic issues of what transportation benefits will accrue from each.

## 5. Route 57

The consideration of highway improvements in the Route 57 highway corridor in Agawam has probably been the most controversial LRE proposal in years. The SUACTS Transportation Plan originally proposed a 4-lane divided highway expansion of the present Route 57 from Mill Street in Agawam to Route 10 in Southwick. This proposal was eventually scaled down due to local opposition in Southwick (to an extension of the roadway into Southwick) to a 4-lane limited access extension only within Agawam, and tapering to tie into the existing 2-lane rural highway segment of Route 57 where it enters Southwick.

Within the last four years, numerous issues have surfaced as to the scope and types of improvements to be undertaken. A proposed transportation improvement package for the existing Route 57 facility was jointly prepared by the JTC and LPVRPC consisting of:



# 1. Intersection Improvements - Six Locations:

Combined intersection safety and capacity improvements at the following six (6) locations along the existing Route 57 roadway in Agawam:

1. Route 57 and Springfield Street (Route 147)
2. Route 57 and Cooper Street
3. Route 57 and Line Street
- \*\*4. Route 57 and Westfield Street
- \*\*5. Route 57 and South Westfield Street
6. Route 57 and Poplar Street

\*\*Note: TOPICS-Type improvements are presently under design for these 2 locations by Keyes Associates traffic consultant.

## II. Route 57 Ramp Upgradings - Two Locations:

Proposed ramp interchange modification and improvement to provide full traffic movements to and from existing Route 57 at the following two locations:

1. Route 57 and Main Street (Route 159)
2. Route 57 and Suffield Street (Route 75)

## III. South End Bridge and Approaches:

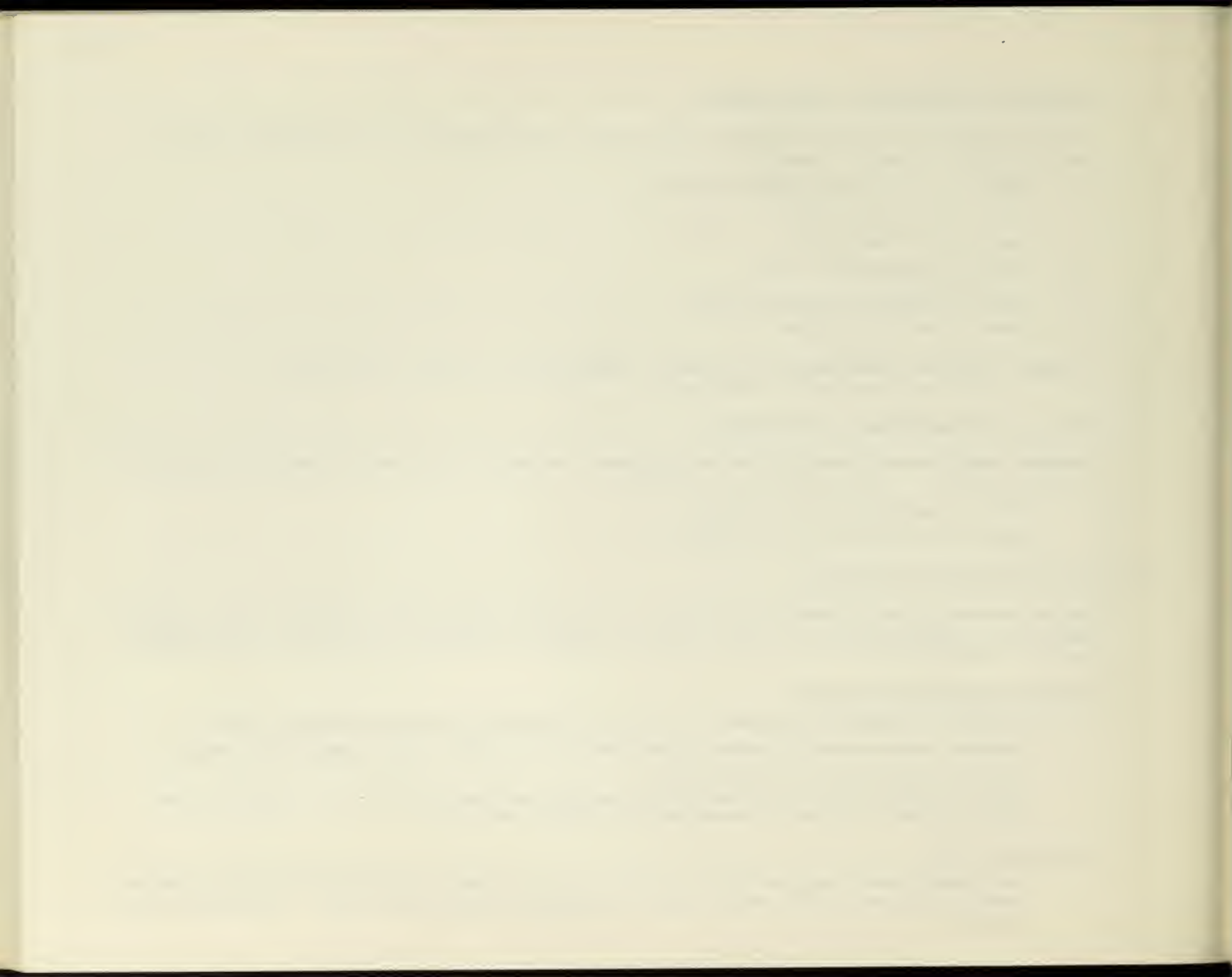
Perform extensive traffic study of the South End Bridge and its approaches (especially Route 57/Route 5 approach) to determine potential traffic safety and capacity improvements achievable through modified approach geometrics, etc.

## IV. Improved Mass Transit Services:

1. Significantly improve and expand bus service in the existing Route 57 highway corridor
2. Consider implementation of LPVRPC-recommended new bus route to better interconnect Agawam with West Springfield and Springfield
3. Explore other potential local mass transit service needs particularly those targeted at the peak hour work trips made by Agawam and/or Southwick residents.

## V. Park-N-Ride Lots:

1. Established fringe area parking lot in the vicinity of Route 57 and Suffield Street in combination with express transit service linked to Springfield employment centers. Two potential sites include:



- (a) Shopping Center - Suffield Street, Agawam
- (b) Intersection of Route 57 and Suffield Street (i.e. within State Highway layout of Route 57,

2. Explore other feasible park-n-ride sites including site in the vicinity of Feeding Hills Center.

The two statewide members of the Metropolitan Planning Organization, EOTC and MDPW have proposed that Route 57 be partially relocated.

The Partial Route Relocation Alternative originates from the evident support for the relocation of Route 57 within the Town of Agawam and the opposition to relocation within the Town of Southwick. This alternative, therefore, attempts to respond to the input of both communities.

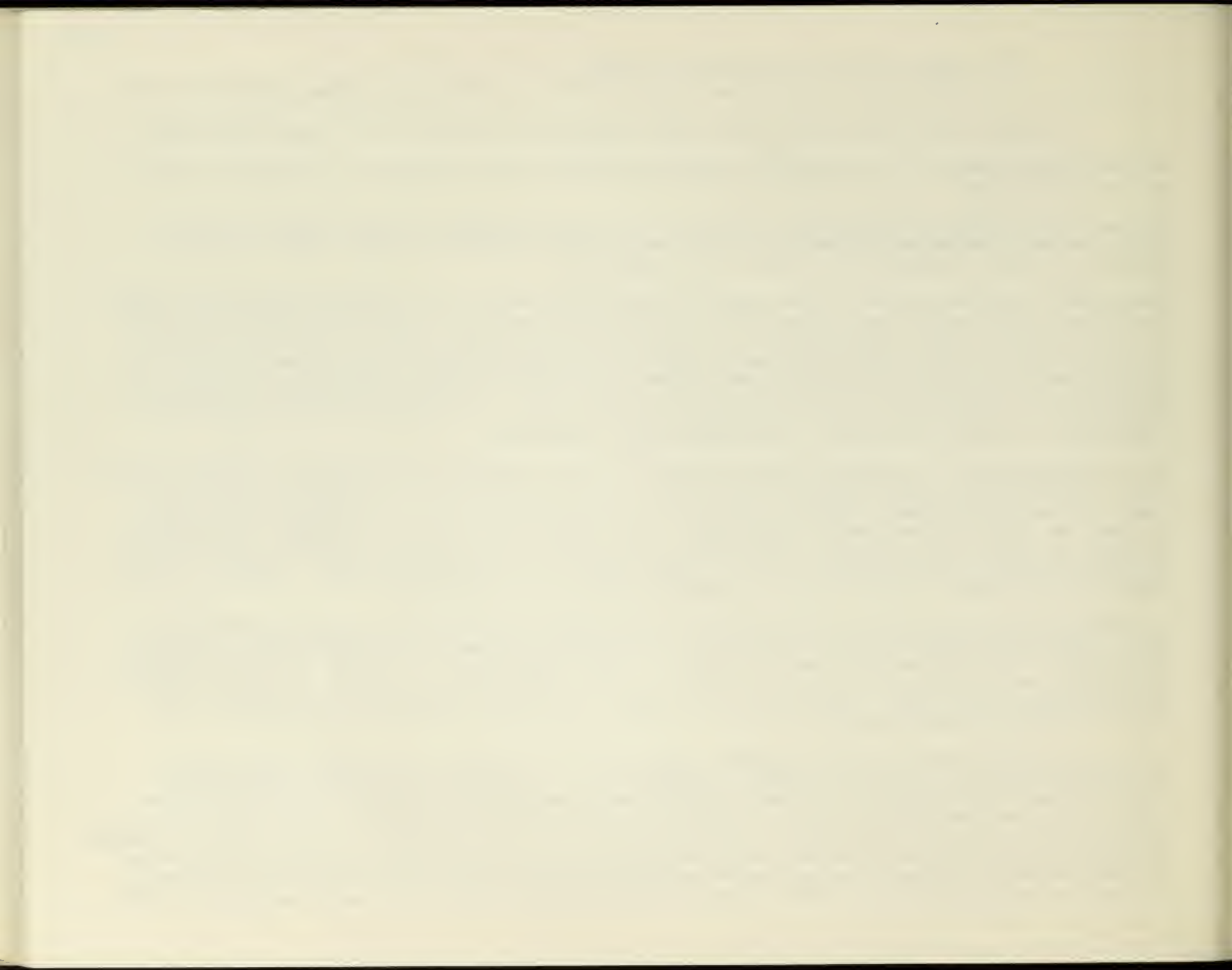
The proposed relocation of Route 57 would begin at Suffield Street where the existing interchange would be modified to provide for movements to and from the west, possibly by converting to a full diamond type interchange. For safety purposes, Route 57 would continue as a four lane divided highway, merging to a two lane access controlled roadway west of South Westfield Street. Crossing under Garden Street and over Shoemaker Lane, this alternative would cut through the unused northwest corner of Bowles-Agawam Airport property, while avoiding the proposed Cesan and Rising Street subdivision and St. Anne Golf Course. Proceeding west under South Westfield Street where interchange access for both east and west movements would be provided, the roadway would run approximately 250' south and parallel to the Hendom Heights neighborhood.

West of Hendom Heights, two alternate alignment options have been considered for the approach to Provin Mountain. Both alternates would intersect with South West Street at grade, allowing traffic movements to both north and south. The preferred southerly approach alignment would cross a larger portion of the Leonard Pond wetland, but would not require any residential displacements. This alignment would also fit in better to the existing mountain side slope terrain and require lower roadway embankments. The alternate, northerly approach alignment would skirt the edge of the wetland resulting in reduced impact to the natural environment. However, it would require the displacement and relocation of six additional single family residences.

The relocated route would tie into existing Route 57 at the Provin Mountain gap near the Agawam-Southwick town line. An at-grade intersection would be developed to connect existing Route 57 (Southwick Street) to the relocated route. The total length of the relocated route would be approximately 4.6 miles. The proposed right-of-way width would be 250' east of West Street and 300' at the Provin Mountain approach. This width would permit an expansion of the route, if warranted in the future, to a four lane divided facility similar to that existing now east of Suffield Street.

Various safety improvements would be considered separately for the remainder of the project area, from the Agawam-Southwick line to the project terminus at Hillside Road. In deference to Southwick's opposition to any re-alignment of existing Route 57, the safety improvements under study would address the identified high traffic volume and high accident locations. Tentative locations identified are Hosmer Corner, Powever Mill Road, including access to and from the Southwick School complex, and the two intersections of Route 10-202 in Southwick. Capacity and safety improvement measures that would be applicable at these locations could involve the removal of sight obstructions, improved roadway lighting, separation of pedestrian/vehicular traffic, the addition of more traffic control devices (i.e. traffic signals, pavement markings, safety signs and channelization islands)







and possible widenings of intersection approach roadways to provide turning lanes and/or added capability. The spot safety and traffic improvements would not be implemented as part of the Route 57 relocation project, but would be included under traffic and safety improvement programs. A traffic improvement project is currently scheduled for the Route 10-202 intersection with Depot Street in Southwick.

An impasse over the selection of an agreed upon solution to Route 57 safety and capacity problems has developed. On May 9, 1980, this deadlock was at least temporarily broken when the MPO unanimously voted to support and fund preliminary engineering for the proposed Route 57 bypass project only, and that no further funds be expended on Route 57 until such time as a Special Task Force composed of one representative of the LPVRPC, PVTA, MDPW, EOTC, City of Springfield, Town of Agawam and State Legislature has completed a detailed review and analysis of the proposed Route 57 bypass project and has presented its findings and recommendations for review and approval by the MPO.

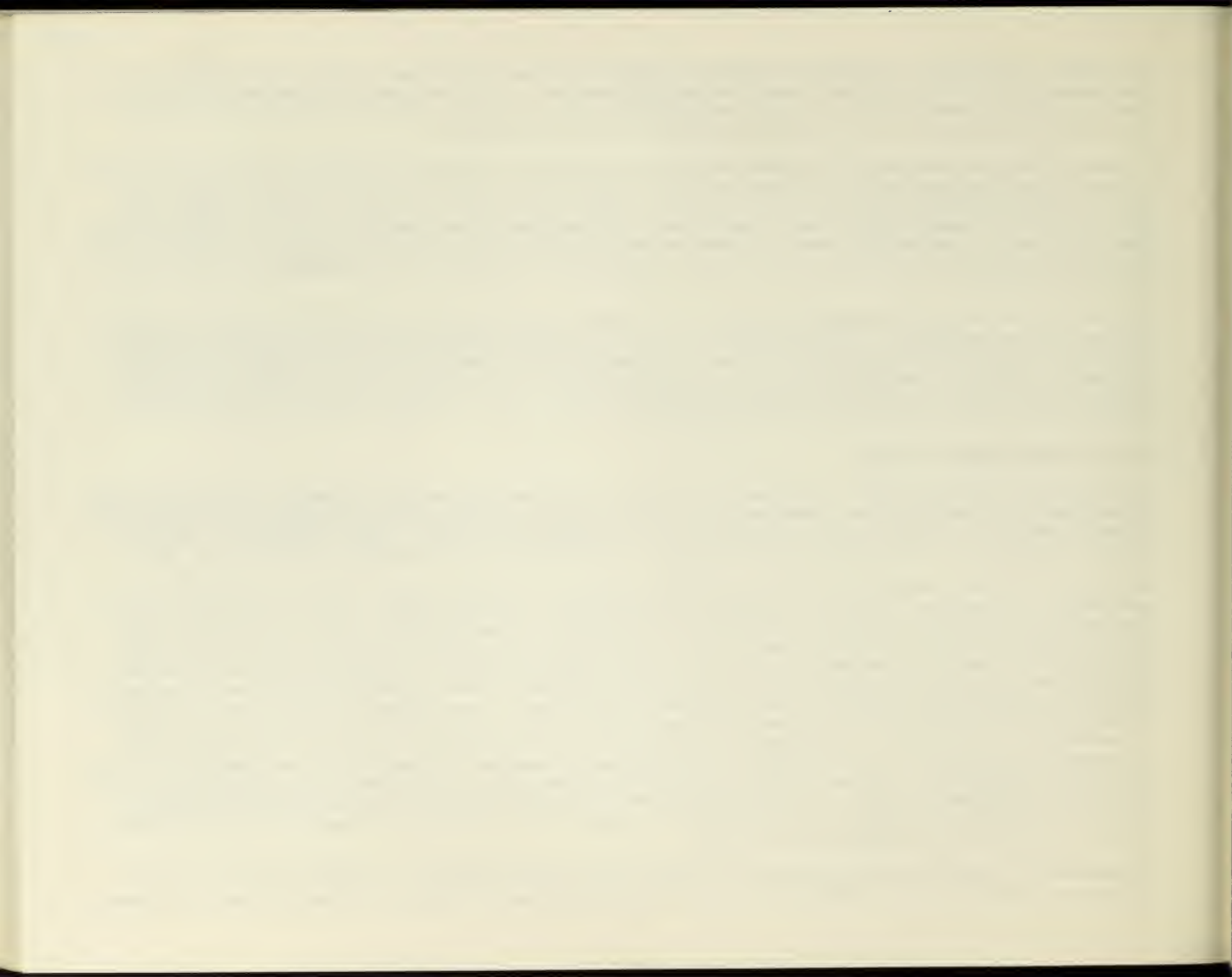
In view of these recent developments, the issue of a recommended improvement projects for the Route 57 highway corridor remains unresolved in the LRE document. It is anticipated that once the Special Task Force has completed its analysis and has presented findings and recommendations to the Metropolitan Planning Organization, a mutually agreed upon proposal for Route 57 will be identified. At that time, the contents of the LPV Transportation Plan will be modified to reflect the improvement option which evolves from the joint deliberations of the Special Task Force as well as the MPO members.

#### 6. Route 32 (Palmer/Ware) Corridor

The proposal for highway corridor improvements to Route 32 in Palmer and Ware was included in the original Long-Range Element for the LPV Region. However, the original Route 32 corridor proposal extended from Monson Center to New Braintree, but this was later reduced to just the section of the Route in Ware and Palmer. The entire Route 32 corridor was located outside the study area of the SUACTS Plan when SUACTS was developed in 1969.

Route 32 is a 2-lane, generally north-south highway corridor which serves the LPV communities of Palmer, Ware, and Monson in the eastern section of the region. The problems of traffic safety, and to some extent, capacity have been long-standing issues with residents and public officials, particularly those of the towns of Palmer and Ware. The major areas of concern specifically include high accident frequency (along the entire route), spot traffic congestion in the CBD's of Ware and Palmer, increasing traffic volume particularly near the Mass. Turnpike entrance along the route, deteriorating roadway pavement, hazardous roadway alignment and potentially rapid and uncontrolled development of land adjacent to the highway. As an outgrowth of the concerns expressed by citizens and officials, the Joint Transportation Committee (JTC) for the LPV Region was requested in 1976 to undertake a study to more fully document the traffic and land use problems of Route 32 and correspondingly to present possible alternative solutions. The Massachusetts Department of Public Works was requested to allow the LPVRPC to undertake a Corridor Planning Study for the highway route. The LPVRPC initiated work on the CPS for Route 32 in December 1976. A final draft report of the Route 32 Corridor Planning Study was presented to the Joint Transportation Committee for consideration in July 1977. However, final approval of the recommendations of the CPS were not agreed on by the MDPW.

In mid-1978, an updating and finalizing of the Route 32 CPS was recommended by the MDPW and the JTC. The updating and preparation of a proposed Final Draft version of the Route 32 CPS was completed by the LPV transpor-



tation staff and was presented to the JTC in May 1979. The recommendations in the revised Corridor Planning Study focused mainly on spot roadway and intersectional improvements as well as some minor realignments of the roadway to overcome hazardous locations. Traffic volumes along the route which range from 3400 to 8200 vehicles per day have been growing at a moderate annual rate and are not so major a concern as improving traffic safety. As stated in the conclusion section of the Route 32 CPS: "The primary concern for this corridor level study stems from poor geometric alignment (traffic safety) rather than severe traffic congestion." A final Route 32 report was completed and submitted to MDPW in December of 1979.

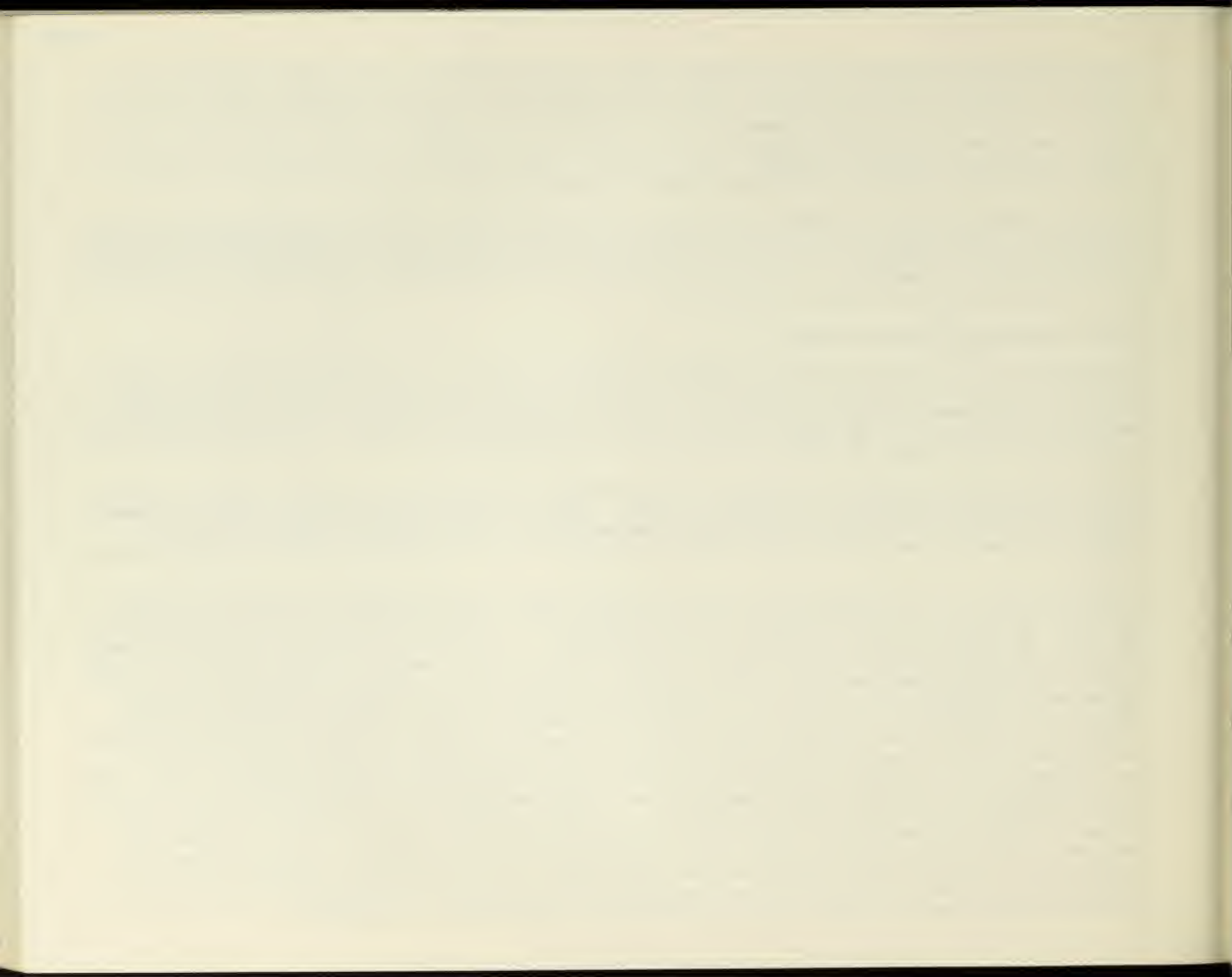
The LRE proposal for Route 32 in Palmer and Ware is implementation of the feasible recommendations of the Route 32 Corridor Planning Study (1979 revision) to improve traffic safety and capacity with relatively minor geometric realignments and signing. The potential alternatives of route relocation or providing transit service are not feasible due to a combination of low density settlement patterns, difficult (hilly) topography, and unfavorable transportation service benefit-to-cost ratios.

#### 7. Route I-391 Downtown Connector-Holyoke

The proposed I-391 Connector for Downtown Holyoke is intended to provide a traffic feeder-connector system for vehicles coming from, and bound for the new I-391 link which is now well under construction. The connector, which will serve Downtown Holyoke is proposed as a 4-lane, limited access arterial. The need for the connector was initially identified in the SUACTS plan which stated: "The Beech Street (Holyoke) widening, proposed by the Department of Public Works, will serve as a connector to I-391 and I-91."

This connector should respect the integrity of the environment through which it traverses; however, it should also allow ultimate development to expressway standards. "The Connector, which would be located along Commercial and Bond Streets, would access from several Downtown Holyoke streets (Appleton, Essex, and Cabot) is viewed as an important key to the economic future of the Holyoke Central Business District and that of Chicopee as well."

When the concept of the connector was first advanced in the SUACTS Plan, the roadway was viewed as necessary to handle the traffic that would be added to the Downtown Holyoke street system from the I-391 link to Chicopee and I-91. The connector now is viewed as a necessary element in the effort to revitalize the declining commercial core of Holyoke's Downtown. In mid-1979, a major 180-store regional shopping center, Holyoke Mall, opened in South Holyoke which was easy access to both the Mass. Turnpike and I-91 via a new connector road. The improved access provided by the connector is now needed for downtown Holyoke to complete at least in terms of accessibility available with this major new shopping center in Holyoke and other recently constructed retail centers in the region. The continued economic vitality of downtown Holyoke is necessary to provide the commercial base to serve near downtown residential areas. The engineering consulting firm of Sverdrup and Parcell was retained in 1978 to prepare an Environmental Overview Summary (EOS) for the proposed connector. This study was undertaken to present a preliminary summary of anticipated environmental and socioeconomic impacts associated with each of the several improvement options. The options included: (1) Intersection and surfacing improvements; (2) 2-lane roadway with intersection improvements on present alignment; (3) 4-lane roadway with at-grade intersections; (4) 4-lane roadway with one grade separation (Cabot Street). The route alternative selected was the 4-lane roadway with all at-grade intersections. The architectural engineering firm of Caolo & Bieniek was then contracted with to prepare the design of the roadway. The engineering firm completed the preliminary design work by mid-1979, and the plans now await final hearings and approval.





In Chicopee, there is another proposed I-391 related roadway facility (that was included in the I-391 Master Plan) that could serve a somewhat complementary role to Holyoke's Downtown Connector. The Chicopee roadway is a proposed connection between what will be I-391 in Chicopee and State Route 33, a major arterial roadway which provides access to major commercial areas as well as the Mass. Turnpike (I-90) entrance in Chicopee. This roadway, which could possibly be partially constructed along an existing rail right-of-way might relieve several Chicopee streets of both center-city through traffic and local traffic bound either for Route 33's commercial areas of the Mass. Turnpike. A separate study has been undertaken by the LPVRPC to explore both the potential level of use and alternative locations for this facility, as well as other improvement options which might save the transportation needs of Chicopee.

The construction of the downtown I-391 connector is based on an agreed upon and acceptable alignment subject to a satisfactory environmental impact assessment review which includes attention to potential dislocations.

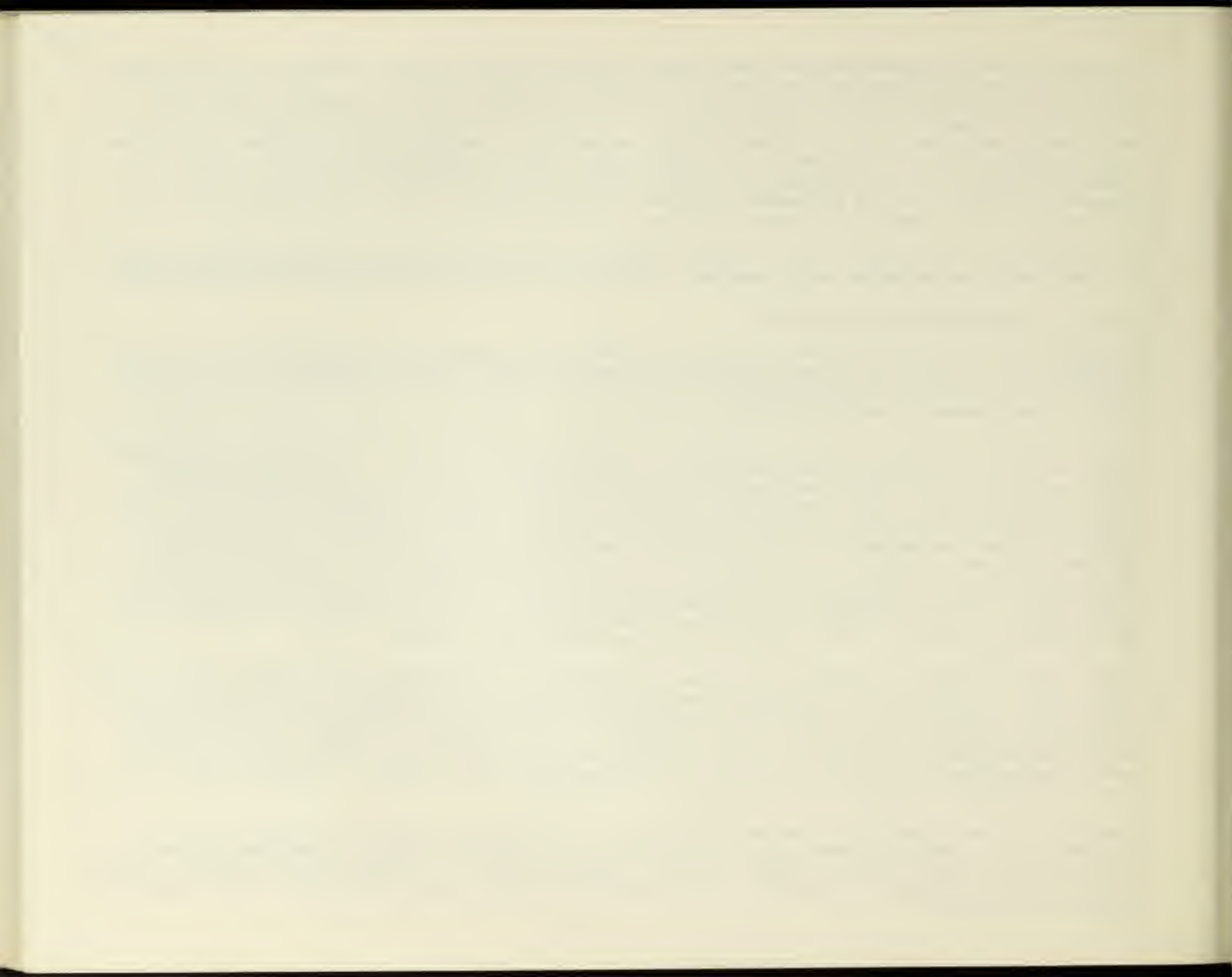
#### 8. Route 66 - Westhampton-Huntington Corridor

The Route 66 LRE proposal calling for a partial realignment and reconstruction of the highway in the towns of Westhampton and Huntington was first proposed in the region's initial Long Range Element in 1977. The 1969 SUACTS Plan did not identify any proposal for Route 66, and Huntington was not then in the transportation study area encompassed by the SUACTS effort.

In the present, a total of 3.2 miles of Route 66, from Route 112 in Huntington to the Westhampton/Northampton town line, would be reconstructed and realigned at a cost of about \$2.7 million. The proposed re-design would result in a cross-section featuring 2-12 foot vehicle lanes, 2-4' paved shoulders, 2-4' graded areas (outside the shoulders), and 2-1' wide berms, which would act as an edging and could be driven over. The existing roadbed will be replaced, bridges widened to accommodate the 40' ROW and a new drainage system installed. The new road surface will be constructed to meet 40 M.P.H. design standards, with a 1000' radius; alignment and grade softening; to meet sight distance and headlight standards, and intersecting improvements. The realignment and reconstruction is proposed to take place within the limits of the existing corridor's right-of-way. A Corridor Planning Study had been initially proposed in March of 1977 for the Route 66 Corridor, but this was rejected by the BTP & D in May of 1977. The project was then advanced to the Design Phase by the MDPW in October 1977, and it is now in the Project Development process.

Several public informational and design hearings have been held on the project in recent years. These include the following: In August 1977, a public hearing was held in Westhampton that resulted in a favoring of a 40' cross section. The proposed cross-section and right-of-way needs were also discussed at an April 1979 public informational meeting at the District 1 office in Lenox. A similar meeting in November 1978 in Westhampton was also in favor of the cross-section. The latest meeting on the corridor plans was held on November 14, 1979 at the Westhampton Town Hall in the form of a combined Design Public Hearing. There were no major concerns nor objections expressed about the project at that meeting.

Therefore, the LRE Transportation Plan project proposal for the Route 66 Corridor improvements for Huntington, Westhampton, and a portion of Northampton consists of the reconstruction and partial realignment of the existing 2-land highway basically within its present roadway corridor. Grade improvements to correct traffic safety and drainage problems and limited property acquisition to affect needed realignment would be the major impacts of the project.





## 9. Springfield Crosstown (North-South) Artery

A major traffic circulation need in the Springfield Downtown area identified in the SUACTS Plan in 1969 was the need for a major north-south arterial roadway on the eastern boundary of the Central Business District. The western edge of the Springfield CBD core area is already well served by a combination of I-91, the Springfield segment of an interstate expressway system, and East and West Columbus Avenue, (a system of 4-6 lane arterial frontage roads that serve I-91). However, on the eastern edge of Springfield's downtown, a considerable volume of daily north-south traffic is moved by a system of roadway segments, which at present, are of variable roadway width and continuity. The LRE project could entail the linking of Liberty-Armory-Federal, and Walnut streets between Hickory Street and I-291. The improved roadway corridor would serve a variety of traffic needs including: several residential neighborhoods (including the McKnight and Hill areas); commercial traffic in the State Street corridor and institutional and light industrial areas including: Springfield Technical Community College, and the Digital/Milton Bradley complex at State and Federal Streets.

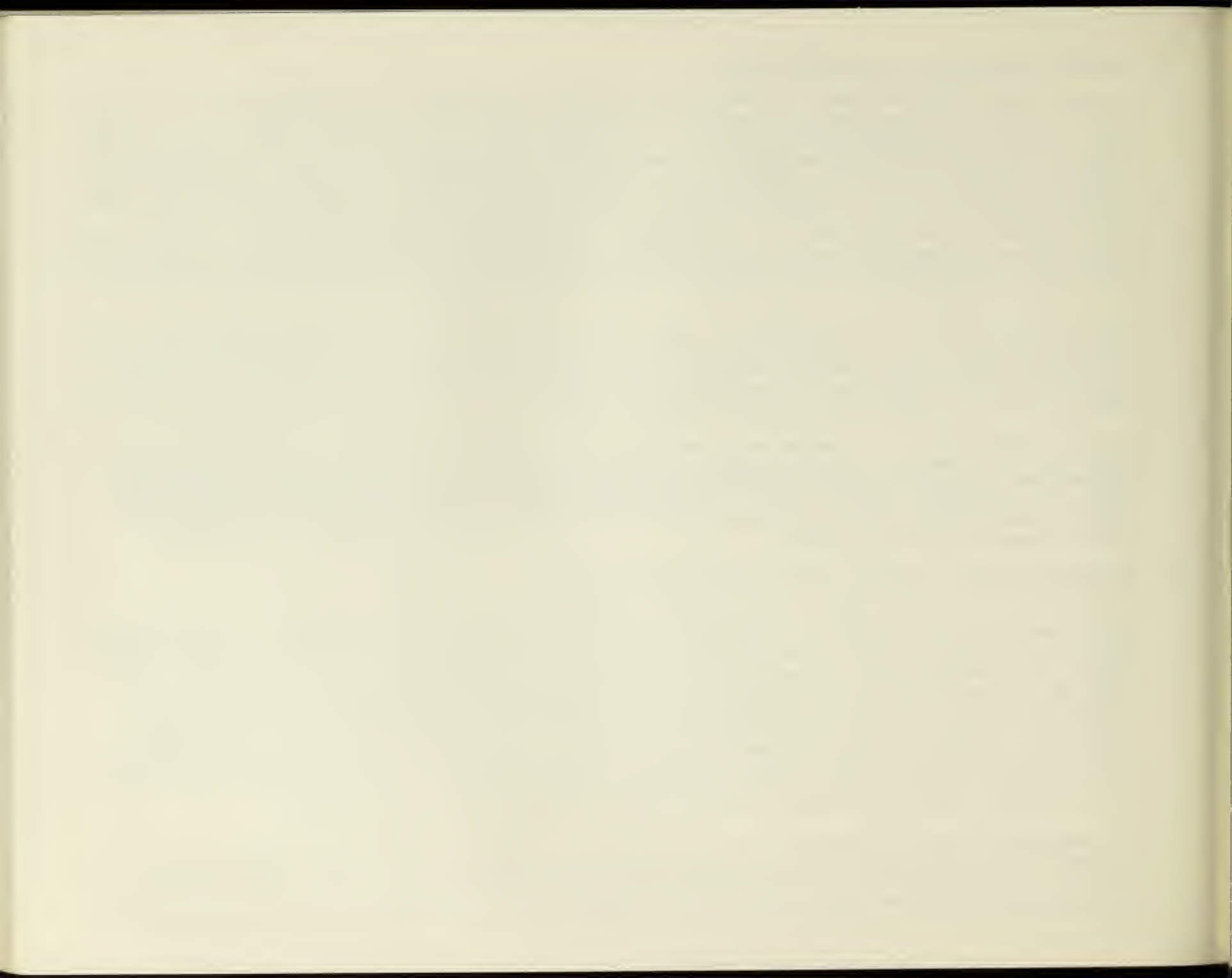
The City of Springfield formally submitted a request for consideration of this project to MDPW in August, 1978. The proposed project was then advanced to Project Development status with the MDPW added conditions that: (1) the new alignment should use only existing streets, since no new roadways or alternative corridors were either proposed or feasible; and (2) that Springfield should provide a socioeconomic impact analysis for the project as well as underwrite the project's engineering costs.

The LRE recommendation for the Springfield Crosstown Artery, therefore, consists of a proposal for more continuous linking of several existing streets in a north-south corridor on the eastern edge of the Springfield Downtown area. Through minor widening and re-alignment of streets in this corridor, a serviceable arterial street can be developed which will serve a variety of land uses on the eastern edge of the Springfield Downtown core area, and will also provide access to I-291 and the east-west (Mass. Turnpike) and north-south (I-91) interstate system in the region.

## 10. Springfield-Downtown I-91 Ramp System and Memorial Bridge Access

The construction of Interstate-91 through Downtown Springfield in the late 1960's resolved many of the region's traffic needs, but also created several others. One of the major traffic dilemmas created in Downtown Springfield was caused by the system of ramps that serve I-91, the Memorial Bridge, and tied into the local street system. The access/egress ramp system that was constructed to serve I-91 required that east and west traffic bound for the Memorial Bridge had to travel either north or south of the bridge to gain access to it. The traffic intending to use the bridge was also forced to negotiate multiple lane weaving operations through traffic lanes carrying a substantial amount of other traffic. This other traffic is either local downtown traffic, or is bound for or existing from either the north or south-bound lanes of the Interstate. Since over 46,000 vehicles a day pass through, enter, or exit the interstate system in Downtown Springfield, and nearly half that many (21,000) vehicles a day cross Memorial Bridge, there is a substantial amount of excess traffic mix and accident exposure for vehicles that pass through this part of the highway network.

The 1969 SUACTS Plan recognized the need for some relief of I-91 related traffic in Downtown Springfield and proposed at least one additional I-91 underpass ramp to handle expressway-bound traffic. This proposal, however, has not been implemented. A 1978 comprehensive traffic study of Downtown Springfield by Alan Voorhees and Associates examined the access, circulation, and parking needs of the approximately 115,000 vehicles that daily enter and exit the Springfield CBD and utilize 53% of downtown land area. The major recommendations of



the Voorhees study were for: (1) a more extensive one-way street system; (2) peripheral parking facilities on the fringe of downtown; and (3) restriction and prohibition of private vehicle use on several downtown streets in favor of increased transit and pedestrian activity. The implementing of these recommendations will be needed to adequately handle the additional 15-17,000 vehicles/day that will be coming into Downtown Springfield when the recently initiated redevelopment program is completed. This increase in vehicle movement into and through the downtown area will probably compound the demands on the existing interstate ramp/service arterial/Memorial Bridge access system downtown. The consulting firm of Champagne Associates was retained in early 1978 to examine, in a separate study, the possible alternative solutions to the capacity, traffic safety and access problems inherent in the existing traffic network. The developed alternatives include plans for a direct ramp connection between Memorial Bridge and the downtown street system (probably including Bridge and Vernon Streets), as well as capacity improvements for both the I-91 ramps, and East and West Columbus Avenue. This would be accomplished both through the reduction of Memorial Bridge traffic, and improved capacity, through redirection and diversion (through turning constraints) of some of the 'through' and local traffic now using Columbus Avenue.

The LRE Proposal for the I-91 ramp system/arterial service road system/and Memorial Bridge access in Downtown Springfield includes implementation of traffic circulation recommendations in the Springfield Downtown Plan, and revised access to Memorial Bridge.

11. Johnson Hill Road Reconstruction and Bridge Replacement (Chester)

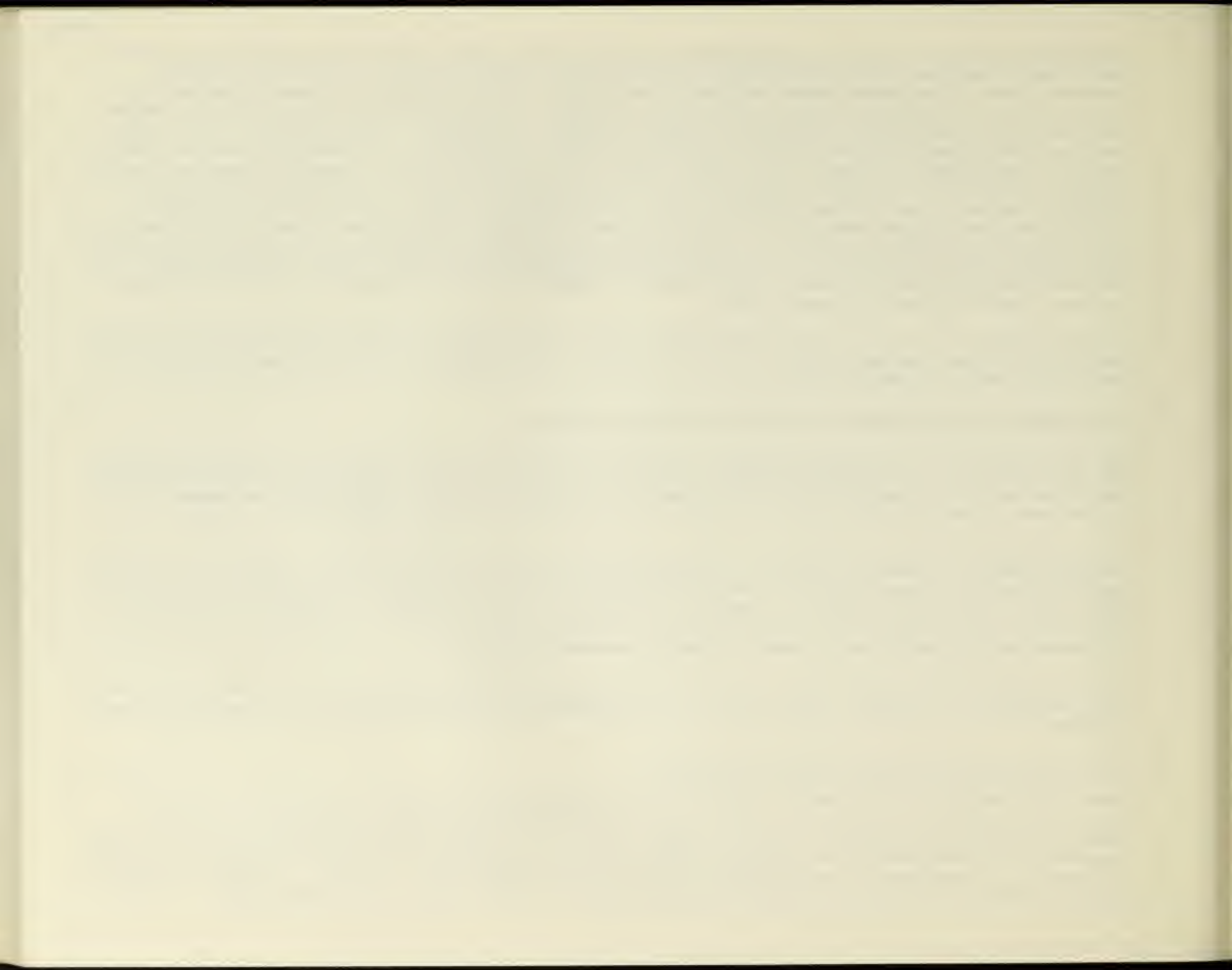
This LRE Transportation Plan project proposal includes the reconstruction of a section of Johnson Hill Road and the replacement of the Middlefield Road Bridge over the Westfield River. The reconstruction of the road and replacement of the bridge are of critical importance to Chester in that Johnson Hill Road serves as part of the town's direct link with Route 20, a major inter-regional truck route supply line to the Town.

The proposed improvements to Johnson Hill Road include minor widening and realignment to improve the traffic carrying capacity and safety of the road. The Middlefield Road Bridge which crosses the Westfield River just past the Johnson Hill Road/Middlefield Road intersection was closed to traffic in January of 1979 when the MDPW ruled it structurally unsound. A temporary "Bailey" bridge was proposed to be constructed adjacent to the old Middlefield Road Bridge. The old Middlefield Bridge and an adjacent railroad bridge would then be demolished and replaced by new bridges in slightly improved locations.

The LRE Transportation Plan Proposal consists of both: (1) the proposed reconstruction of Johnson Hill Road at or adjacent to its present location; and (2) the replacement of the Middlefield Road highway and railroad bridges.

12. Route 116 Bridge Replacement (Holyoke/South Hadley)

Route 116 in Holyoke and South Hadley is part of an old intra-regional highway that, while it crosses the Connecticut River twice in Holyoke, primarily serves traffic on the east side of the Connecticut River between Springfield and Amherst. While the traffic needs of the Springfield-Chicopee-Holyoke portion of this route are now either served by I-91, or will soon be met by I-391 linking of Chicopee and Holyoke, the traffic needs on the east side of the Connecticut River (north of Holyoke) will still have to be met by Route 116. Vehicle traffic on this segment increased 5% between 1976 and 1978 to almost 7500 vehicles/day.





The weakest traffic link along this two-lane, meandering highway is perhaps its busiest traffic segment - the bridge that links Holyoke to South Hadley. However, the bridge that currently links Holyoke and South Hadley is the Old County Bridge, a structure that is over 50 years old, only 2 lanes wide, and is not satisfactory for carrying either the present or projected future traffic volumes between the two communities and other parts in the region.

The consulting firm of Louis Berger Associates was retained in 1978 to evaluate the possible options for the bridge. A total of five alternatives were identified, including: (1) closing of the old bridge with no replacement (traffic would have to utilize the Route 202 or 141 Bridges over the Connecticut; (2) making extensive repairs and reinforcement to the old county bridge; (3) building a new bridge upstream of the existing bridge; (4) constructing a new bridge downstream of the present bridge; and (5) erecting a new bridge near the location of the existing bridge, after its removal. The removal of the existing bridge, either temporarily or permanently, was essentially ruled out due to the potential negative impact on South Hadley businesses. The upstream and downstream relocations of the bridge also raise problems of business-operation impact or relocation on both sides of the river, but particularly in Holyoke (Graham Manufacturing Company) and Mid-Town Garage). The reinforcement of the existing bridge was judged to be an expensive and potentially unsatisfactory alternative. Another development in 1978, a determination that the bridge was eligible for placement in the National Register of Historic Places added a further dimension to the alternatives analysis. If the bridge were formally placed in the Register, this would add additional issue that would have to be overcome before the existing bridge could be removed.

The LRE Transportation Plan proposal for the Route 116 Bridge between Holyoke and South Hadley, therefore, involves the selection and implementation of a replacement bridge to provide a solution to the constraints on traffic along the Route 116 Corridor. A recent decision has been made for erecting a new bridge near the location of the existing structure subsequent to its removal.

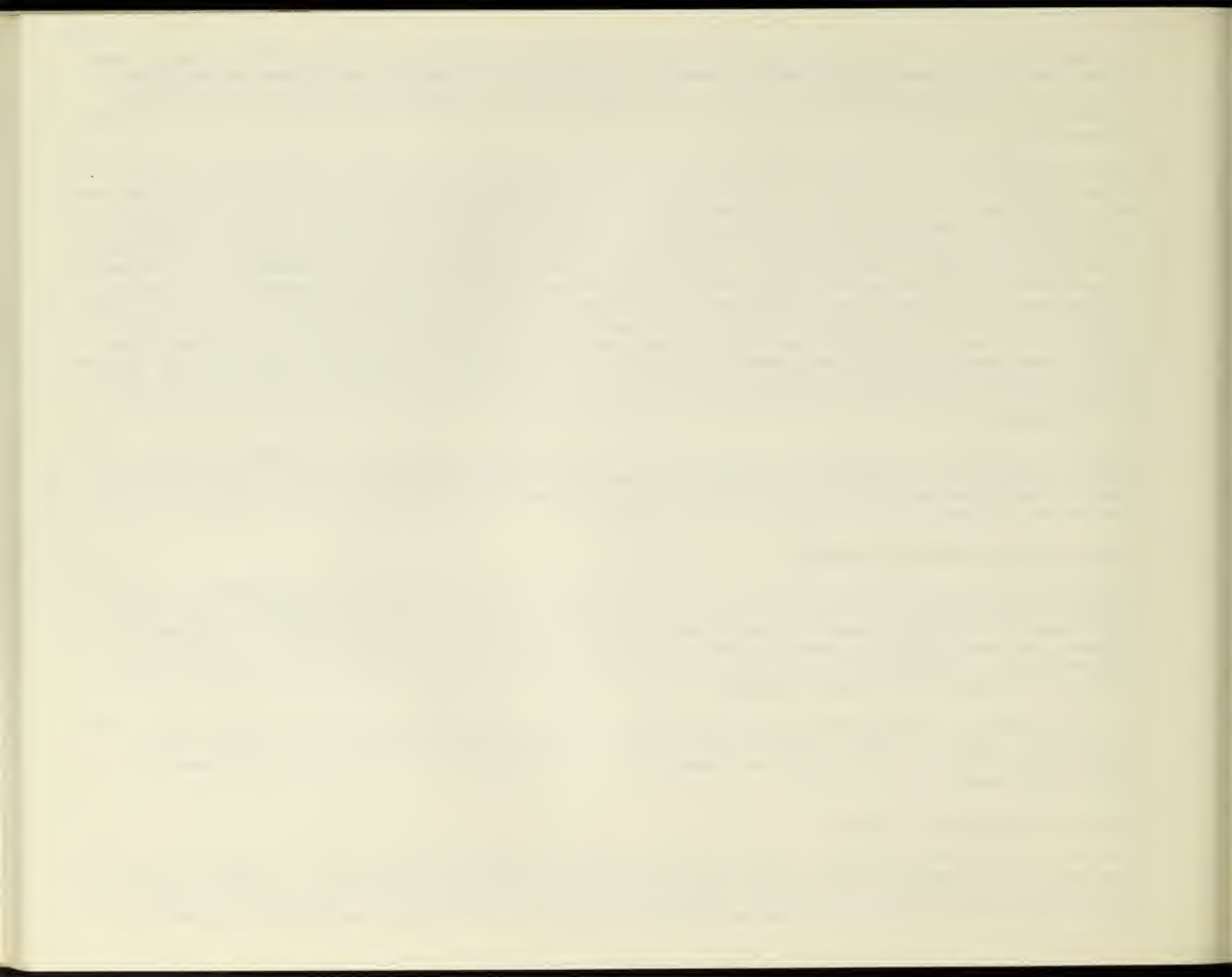
#### 12. Route 116 Reconstruction (Plainfield)

This LRE proposal is the minor realignment and reconstruction of 6 miles of Route 116 in Plainfield. A minor realignment and reconstruction of the present Route 116 within Plainfield was the recommendation of a 1978 LPVRPC analysis of traffic needs and growth potential within the Route 116 Corridor. Any potential major realignment and required Corridor Planning Study were ruled out by the LPVRPC study because: (1) a major realignment was not justified due to the present and projected traffic volumes, and; (2) any proposed realignment would have little if any public support.

The LRE Transportation Plan proposal, therefore, consists of minor realignment and reconstruction of Route 116 in Plainfield, basically within the present Right-of-Way. A cross section of generally 32' width (2-12' travel lanes and 2-4' shoulder areas) was recommended by the LPVRPC to minimize potential environmental and socioeconomic impacts.

#### 14. Route 20 Reconstruction (Russell)

This Long Range Element proposal of the Transportation Plan involves the proposed reconstruction of just over 2 miles of a rural highway element of Route 20 in the Towns of Huntington and Russell. The proposed project is the reconstruction of the 2-lane rural highway from Route 20's intersection with Blandford/Stage Road, just south of the Russell Center, to the joining of Routes 23 and 20 near the eastern boundary of the community.





The reconstruction of Route 20 along the previously noted 2.17 mile length will consist of minor widening and realignment to improve traffic safety. This section of Route 20 is part of a highway route that extends the entire length of the state and serves both rural highway and urban center traffic needs.

#### 15. Route 143 Corridor Reconstruction Proposal

The LRE Transportation Plan proposal for a reconstruction of Route 143 (Main Road) in Chesterfield, Worthington, and Williamsburg, advanced in the initial LRE for the region. In that document, it was stated that "the LPVRPC and two of the three towns through which Route 143 passes have recognized the need for the improvement of this highway." The recommendation of the initial LRE was for a Corridor Planning Study to be considered for the total length of the Route, including Chesterfield, Worthington and Williamsburg. A portion of this corridor, a 212 mile section of Route 143 in Chesterfield, is currently in the Design Phase at MDPW, and will be advertised by mid-1980.

With a traffic volume on this 2-lane rural highway that ranges from only 200 to 950 vehicles per day, the major concerns of the residents and officials of the affected towns were traffic safety and the condition of the roadway and bridges. In a related development in July of 1979, the Town of Worthington requested the Massachusetts Department of Public Works to consider assumption of the maintenance of Route 143 in that Town. The LRE proposal for the Route 143 Corridor remains as it appeared in the original LRE, that is, that a Corridor Planning Study (CPS) looking at the total route should consider not only all of that part of the route within Worthington and Chesterfield, who have expressed their interest in the route improvement, but also that part of the route in Williamsburg.

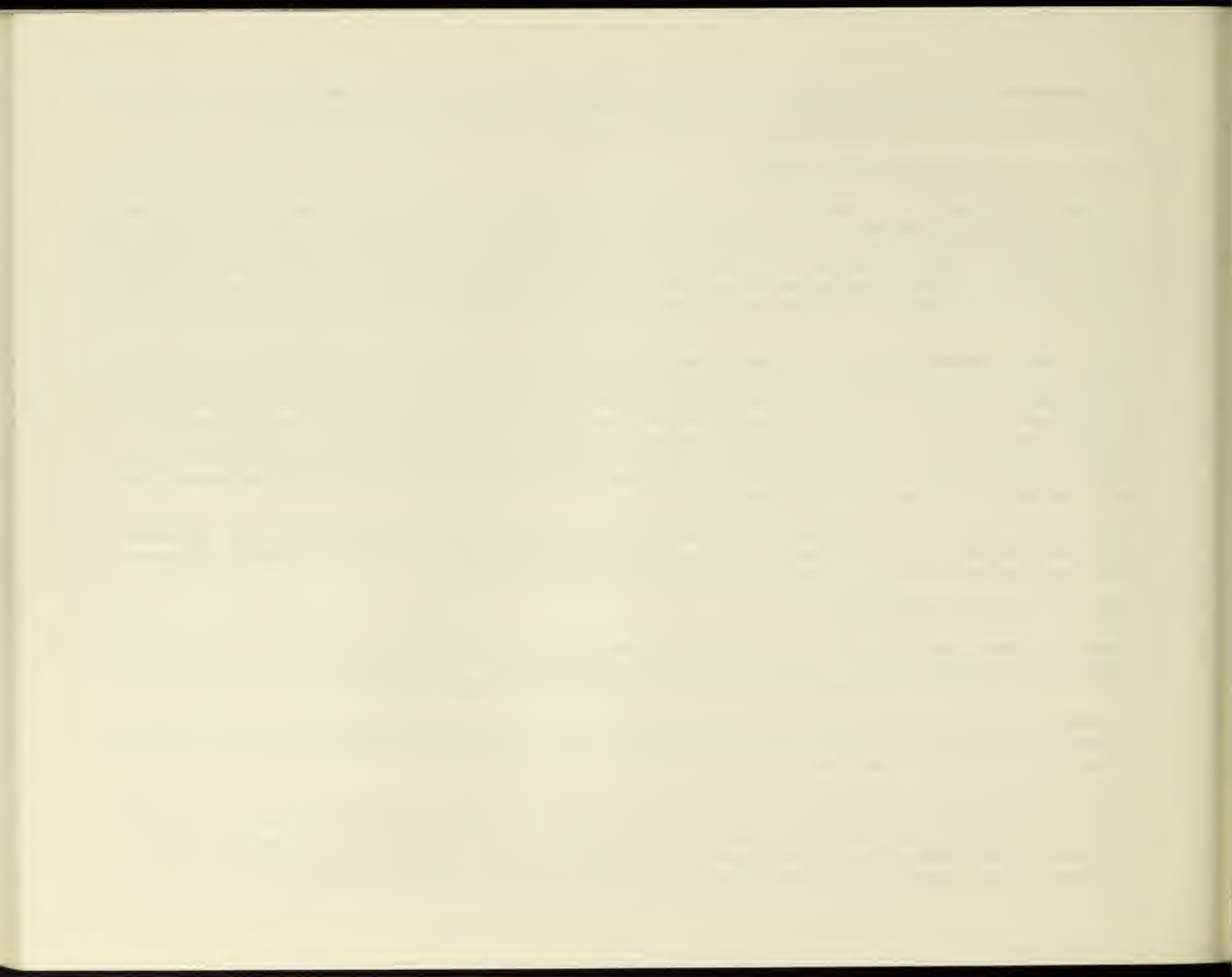
The section of Route 143 proceeding through Chesterfield has been designed and advertised to be constructed. The section through Worthington has been advanced to the project development phase. No corridor planning study was undertaken due to the clarity of the project's need and scope.

#### 16. Route 5 - Easthampton/Northampton

Route 5 throughout the LPV Region is an important north-south arterial. Within the municipalities of Easthampton and Northampton Route 5 proceeds through a known flood plain where flooding conditions have periodically existed from the intersection with I-91 for one mile in a southward direction.

A proposal to reconstruct this one mile segment of Route 5 has been developed which would raise the general roadway profile above the 10-year flood elevation of 116+ feet. The project proposes to follow the existing roadway alignment and includes the addition of 10 foot paved shoulders.

While this project does presently have a high regional priority, it was also recently moved from the Annual Element to the 2-3 year element of the region's TIP for Fiscal year 1980. The Urban Systems funding category of the project's proposed funding requires the endorsement of the project by the principal elected officials of both Northampton and Easthampton where the project is located. This endorsement may not be received without design modifications already identified as desired by the two communities.



In order to address the potential environmental impacts associated with this proposed project, the Executive Office of Environmental Affairs has recently determined that a Comprehensive Environmental Impact Report (EIR) must be prepared by the MDPW. It is anticipated that through the Environmental Analysis process, outstanding issues of concern to the two affected communities can be successfully resolved.

17. Bradley International Airport (Windsor Locks, Connecticut)

Bradley International Airport, while located in Connecticut, serves as the major commercial airport for both the Hartford and Springfield urban areas. Since air passenger transport needs and growth potential of the Springfield urban area are dependent on the development of Bradley International, its evolving needs are a long-range transportation concern to this region.

The substantial growth in air passenger travel, both nationally and at Bradley, in recent years has clearly indicated the need for expanded and modernized terminal facilities. In order to plan for its growth and improvement, the Connecticut Department of Transportation contracted with DeLeuw Cather in 1977 to prepare a Master Plan for the airport's development. The major elements of the development plan included: (1) expansion of the capacity and modernization of the passenger terminal operations, and (2) improvement of access to the airport and the parking facilities, and (3) an improved vehicle circulation system at the complex.

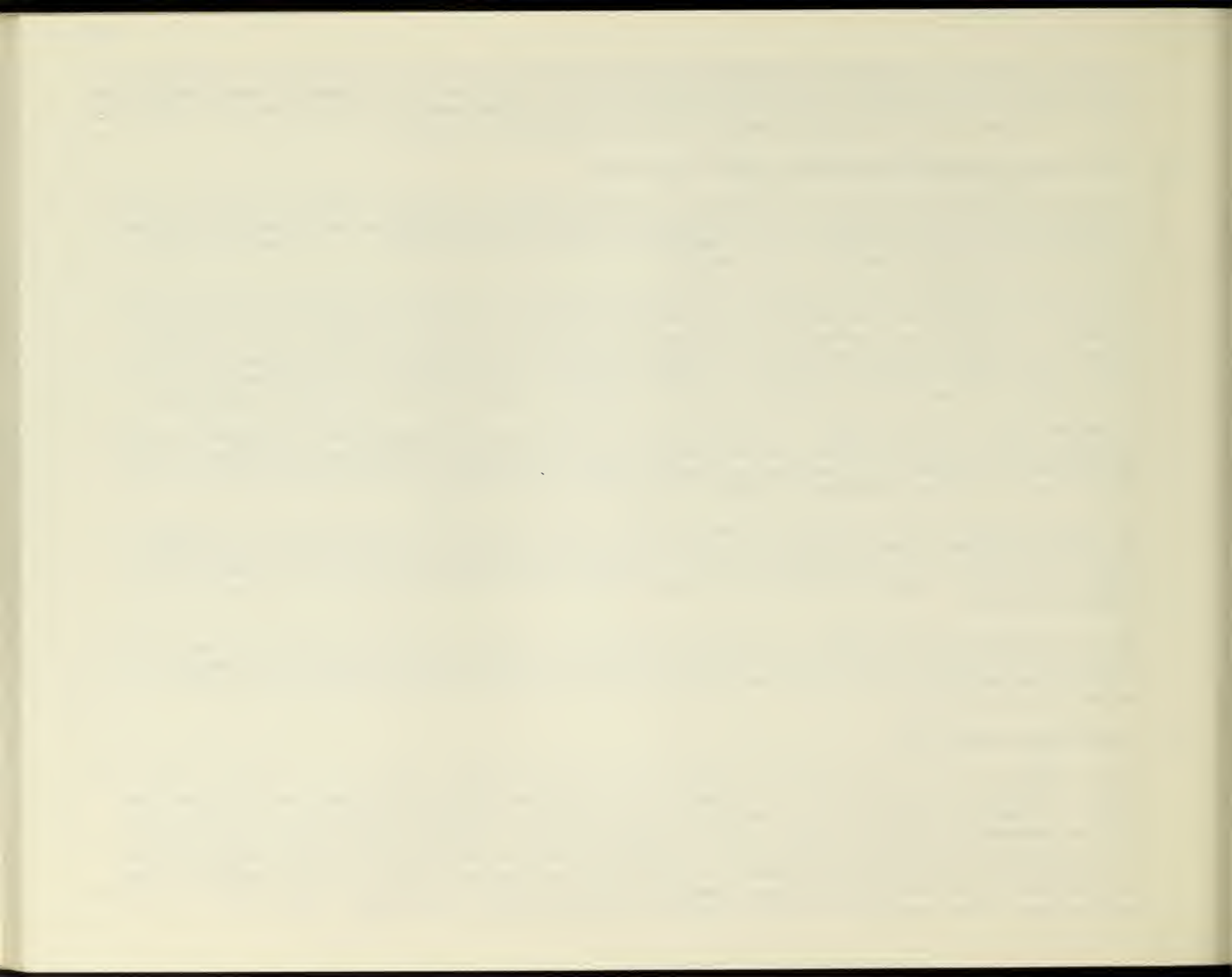
In November 1979, the first element of the Master Plan, an expansion and modernization of the Delta Airlines passenger terminal wing was opened. The new terminal wing now provides for the present and future needs of the airline, and includes an all-weather passageway between the passenger terminal and the aircraft. More of this type of boarding and departure system is planned for other airlines.

One major controversy still unresolved at Bradley is the final decision to put into operation (or dismantle) an automated guideway, shuttle system that was planned to carry passengers to and from the outer parking areas of the airport to the passenger terminal. The system, while expensive to install and operate, might serve to enhance the airport's operations and improve air-passenger transportation service in the Hartford-Springfield region.

The LRE Transportation Plan proposal for Bradley International consists, therefore, of the continued development of the Airport Master Plan for the expansion of capacity and modernization of the airport complex and the continued upgrading of the parking and vehicle circulation system, including resolution of the use of the automated guideway system.

18. Barnes Airport (Westfield)

Barnes Airport is one of the LPV Region's larger airfields which recently began to serve regional, commercial, as well as private air operations. In the summer of 1978, Air New England introduced scheduled weekend and charter air service from Barnes to the Cape Cod and Boston Areas. Starting in the summer of 1979 that service was expanded to include regularly scheduled commuter service to New York (via Bradley International) as well as Boston, and Burlington, Vermont. Also, the Federal Aviation Administration in 1979 included Barnes in a nationwide listing of airports proposed to handle increased general aviation (and some regional commercial operations) as a satellite to a major commercial airport, in this case, Bradley International. Air commuter service to New York from Barnes (via Bradley) was discontinued in late 1979.





A newly revised Master Plan will be developed for Barnes Airport in order to update its functional capabilities in the region. The plan will forecast airport usage, including both numbers and types of aircraft as well as estimates of short and long-term capital and non-capital needs, ground transportation system access needs in and around the facility, and desirable airport role and function consistent with state regional airport planning goals and objectives.

The LRE Transportation Plan proposal for Barnes is to further its capabilities in terms of aircraft storage, runways, and flight operations in order to complement Bradley International's requirements for handling commercial air passenger needs in the region. The availability of scheduled commercial air passenger service in the LPV Region adds a further dimension to the region's air transportation services and should be encouraged.

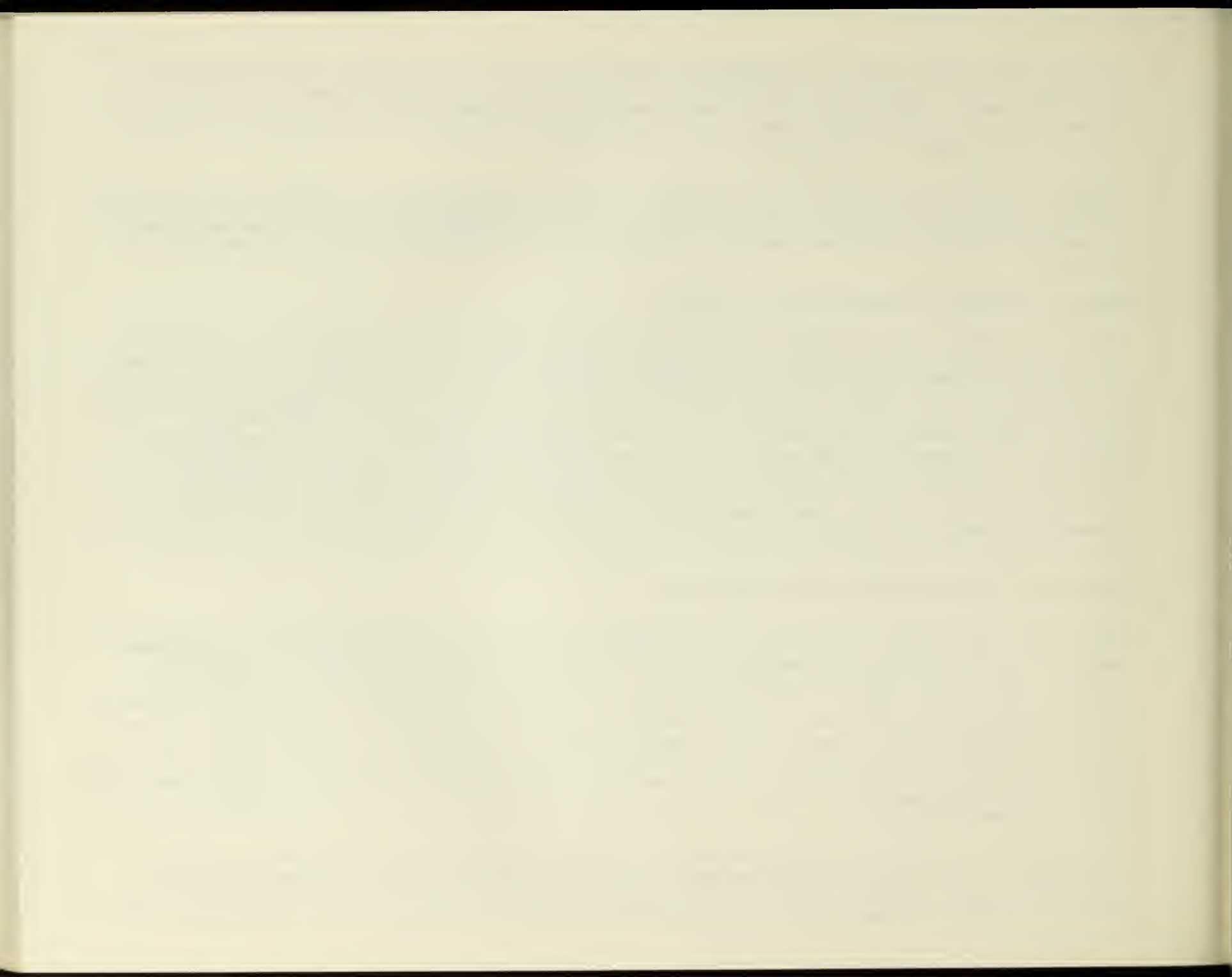
19. Westover Airfield and Industrial Park (Chicopee)

Since its closing in the early 1970's, the former Westover Air Force Base has been searching for a role in the region's air transportation system. Its present role of serving as an Air National Guard Base as well as an Industrial Park points out both the limitations and the potential for Westover Airfield. The growing importance and volume of the air freight business in the 1970's, particularly for commercial and industrial operations, makes the potential role of Westover Airfield as an air freight center very promising. The airfield is already equipped with aircraft operations and storage facilities to accommodate any anticipated needs, and in November 1979, the residents of Chicopee approved the use of the airport for commercial operations. Also in late 1979, the FAA names Westover as one of a number of airports nationwide that should be considered for upgrading as a reliever airport for Bradley International. Westover's development as an air freight center for the LPV Region (and perhaps a part of Northern Connecticut) could attractively complement the development of regional air passenger operations at Barnes airport in Westfield, as well as relieve Bradley of multiple growth pressures.

20. Main Street Transit/Pedestrian Mall (Springfield)

A planned 5-block, Transit/Pedestrian mall on a section of Main Street in Downtown Springfield was initially proposed to combat traffic congestion, unacceptable air pollution levels and the decline in downtown commercial activity. Springfield's downtown area has been beset in recent years with declining commercial activity, and continuing traffic congestion, while it continued to maintain the largest concentration of transit service in the region. In an attempt to reverse the directions of traffic congestion and commercial decline and to capitalize on the resource of transit service already in place, the City developed a plan for a transit/pedestrian mall as part of a comprehensive downtown revitalization/traffic plan effort. The planned transit/pedestrian complex is mainly a federally funded, \$5 million project that entails the closing of 5 downtown blocks of Main Street to private auto use. The five blocks, from Court to Taylor Street would have their travelway reduced to a meandering 2 lane bus route, and would involve a corresponding expansion of the existing sidewalks.

The plans for the transit mall correspond well with local and antional transit developments. Locally, the replacement of virtually all of the PVRTA buses in the region with a new fleet of advanced design buses during 1978 helped to improve interest and ridership on the region's transit system. Substantial price increases of gasoline and some severe shortage conditions in 1978 and 1979 (and similar projections for the





future) also helped to dramatically boost transit ridership and improved its long-range service outlook in the region.

The gasoline price increases and shortages have also improved the attractiveness of downtown areas such as Springfield for future commercial growth, especially given the close proximity to downtown of large residential concentrations, and extensive transit service and parking areas. The transit mall plans appear to have the potential of further enhancing the commercial potential of downtown by making it more attractive for pedestrian shoppers who can access the mall area by walking from nearby residential areas or downtown-fringe parking lots, or commuting downtown by public transit.

The LRE Transportation Plan proposal for the Main Street Transit/Pedestrian Mall in Downtown Springfield, therefore, entails the implementation of the mall and related street and parking area improvements. A decrease in downtown traffic congestion and air pollution, as well as an expected continuing increase in transit ridership are expected to be the major benefits of the project.

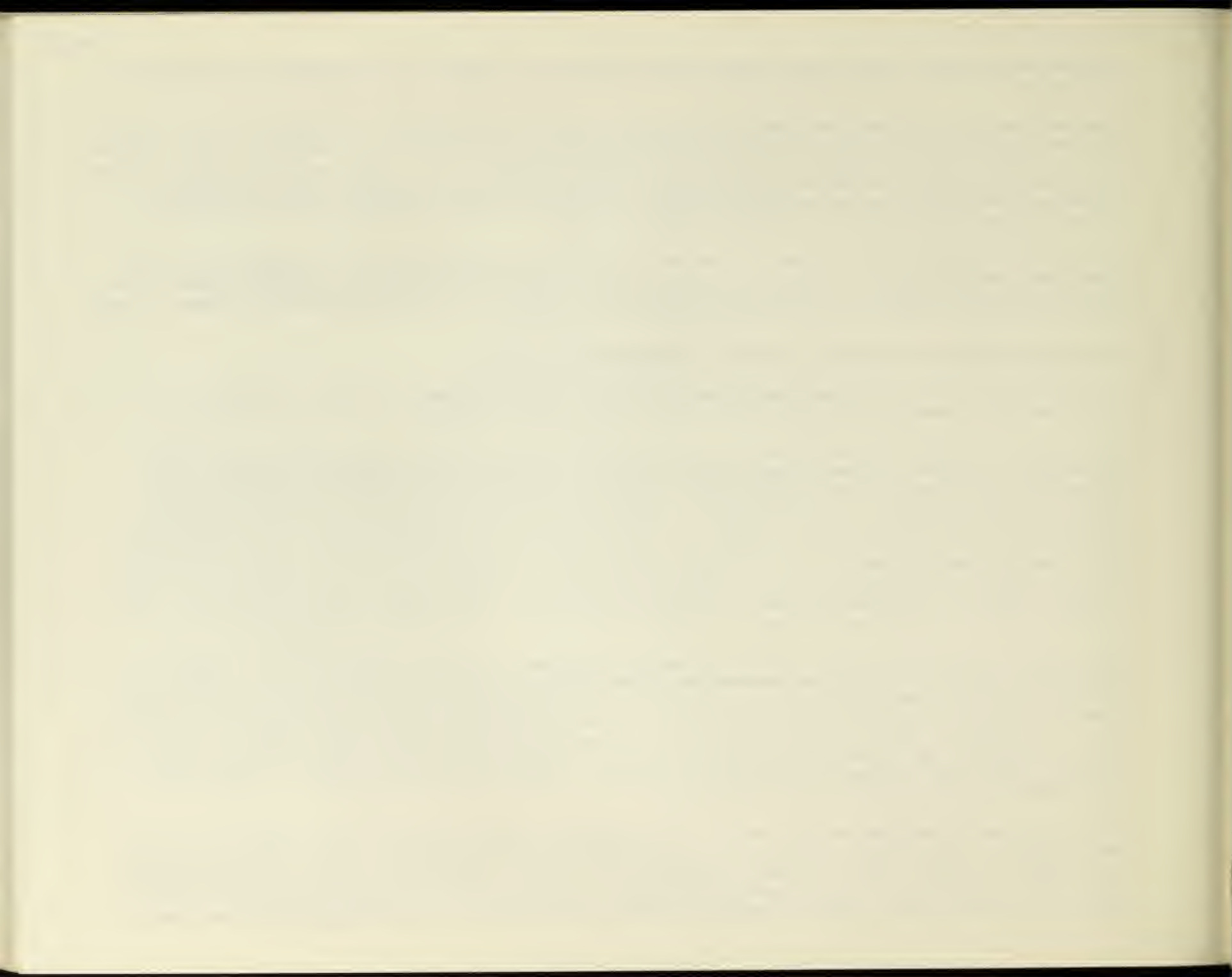
## 21. LPV Region Bikeway and Waterfront Recreation/Transportation Projects

The LPV Region Bikeway and Waterfront Recreation Project includes Bikeway and pedestrian projects in 6 towns and cities along the Connecticut River Waterfront in the LPV Region.

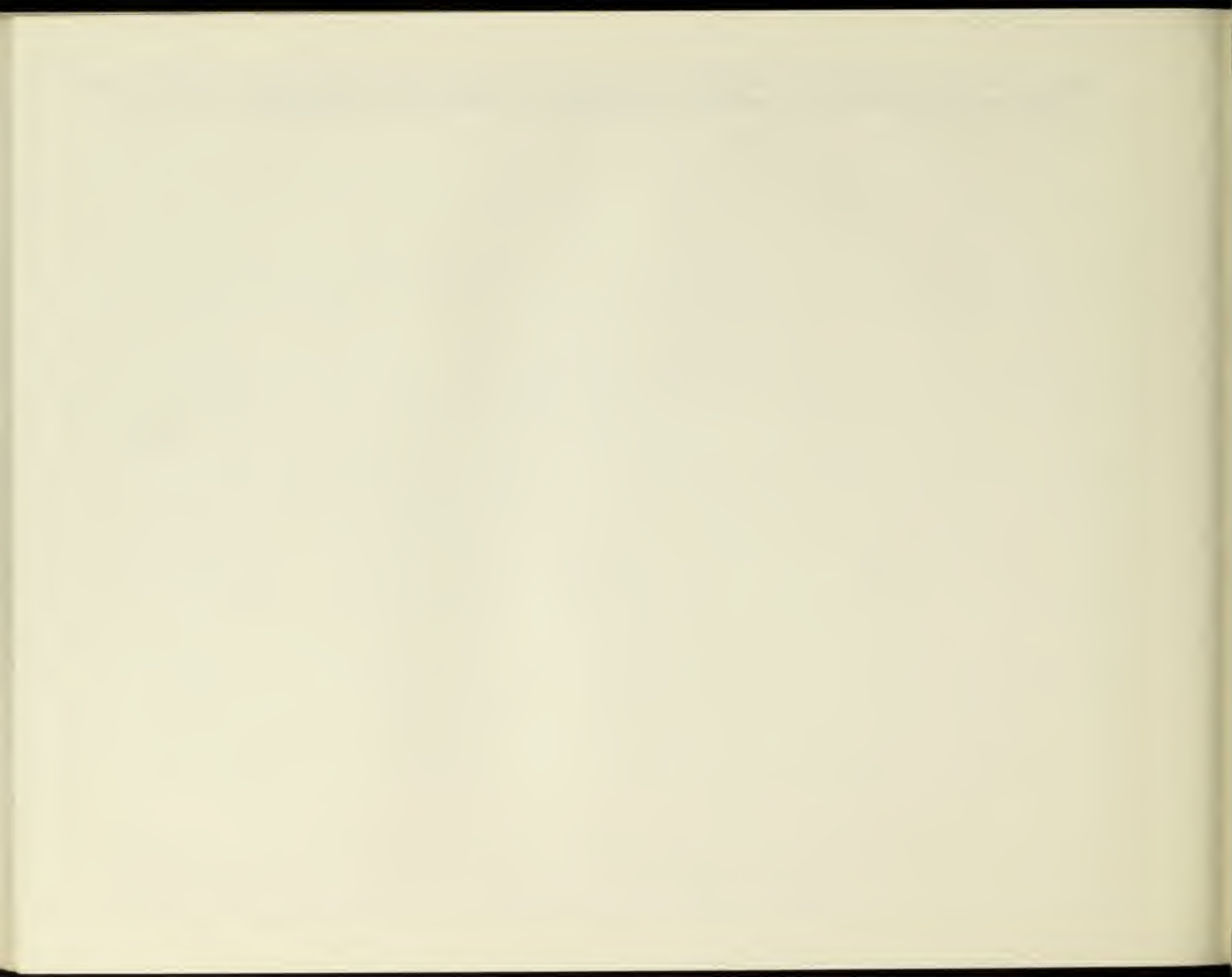
The oldest and perhaps most ambitious of the LRE proposals involves the conversion of the former Ashley Avenue Bridge between Chicopee and West Springfield to an exclusive bicycle/pedestrian crossing of the Connecticut. This proposal was initially developed in 1976 as the region's entry for funding in DOT's National Bikeway Demonstration Act competition. This \$1.4 million Bikeway was one of only 40 bikeway projects selected nationally for DOT funding. In 1978, the engineering consultant firm of W. J. Hickey was retained to evaluate the structural integrity of the bridge for the proposed project. The bikeway bridge, when completed, would provide not only a unique crossing of the Connecticut River, but would also provide a bicycle/pedestrian bridge connector in the heavily urbanized southern portion of the LPV Region. Within a 5-mile radius of the bikeway bridge, an easy bicycling distance, there are several colleges and activity centers as well as a resident population of over 300,000 people who could use this new bikeway facility.

The second part of the Connecticut River Transportation/Recreation system is a proposed 5-College Bikeway System that would link the college communities of the northern part of the LPV Region. This bikeway system would link Smith College (Northampton), the University of Massachusetts, Amherst, and Hampshire Colleges (Amherst) and Mount Holyoke College (South Hadley). This system would serve an estimated student population of over 30,000, many of whom would use bicycles, particularly during the Spring, Summer, and Fall seasons. In addition to linking these 5 Colleges, the three communities in which they are located would directly benefit from the bikeway (basically along Routes 9 and 116) as well as providing linkage to the neighboring municipalities of Hadley and Holyoke.

The third major bikeway/pedestrian element of this proposal concerns plans for the Springfield waterfront. During the Spring and Summer of 1979, a Connecticut-based planning design firm (Moore, Grove, and Harper), with substantial public input, devised a development plan for the Springfield riverfront, from Longmeadow to Chicopee. The plan calls for a network of bikeway and pedestrian trails extending nearly the entire length of the riverfront. Since the proposed bikeway system extends to the Springfield/Chicopee line, it



would provide a possible feed-in connection to the Chicopee-West Springfield Bikeway Bridge. Also included in these plans for the Springfield waterfront are proposals for numerous recreational boat marinas and launching facilities.



Environmental AssessmentIntroduction

The purpose of this section of the Transportation Plan document is to present an overview assessment of the probable environmental impacts of the TSM and LRE components of the Regional Transportation Plan. The framework of this Environmental Assessment is in keeping with the general guidelines of the Council on Environmental Quality for implementation of the National Environmental Policy Act (P.L. 91-190) and complies with corresponding requirements of the Massachusetts Environmental Policy Act, as amended, (M.G.L. Chapter 30 Section 62).

The Council on Environmental Quality guidelines provide for a "broad program statement" when the environmental affects are the result of "a number of individual actions on a given geographical area" or "the overall impact of a large-scale program or chain of contemplated projects." In this case, "subsequent impact statements on major individual actions will be necessary where such actions have significant environmental impacts adequately evaluated in the program statement."

The assessment covers the following points specified in the National Environmental Policy Act and in the Council on Environmental Quality guidelines:

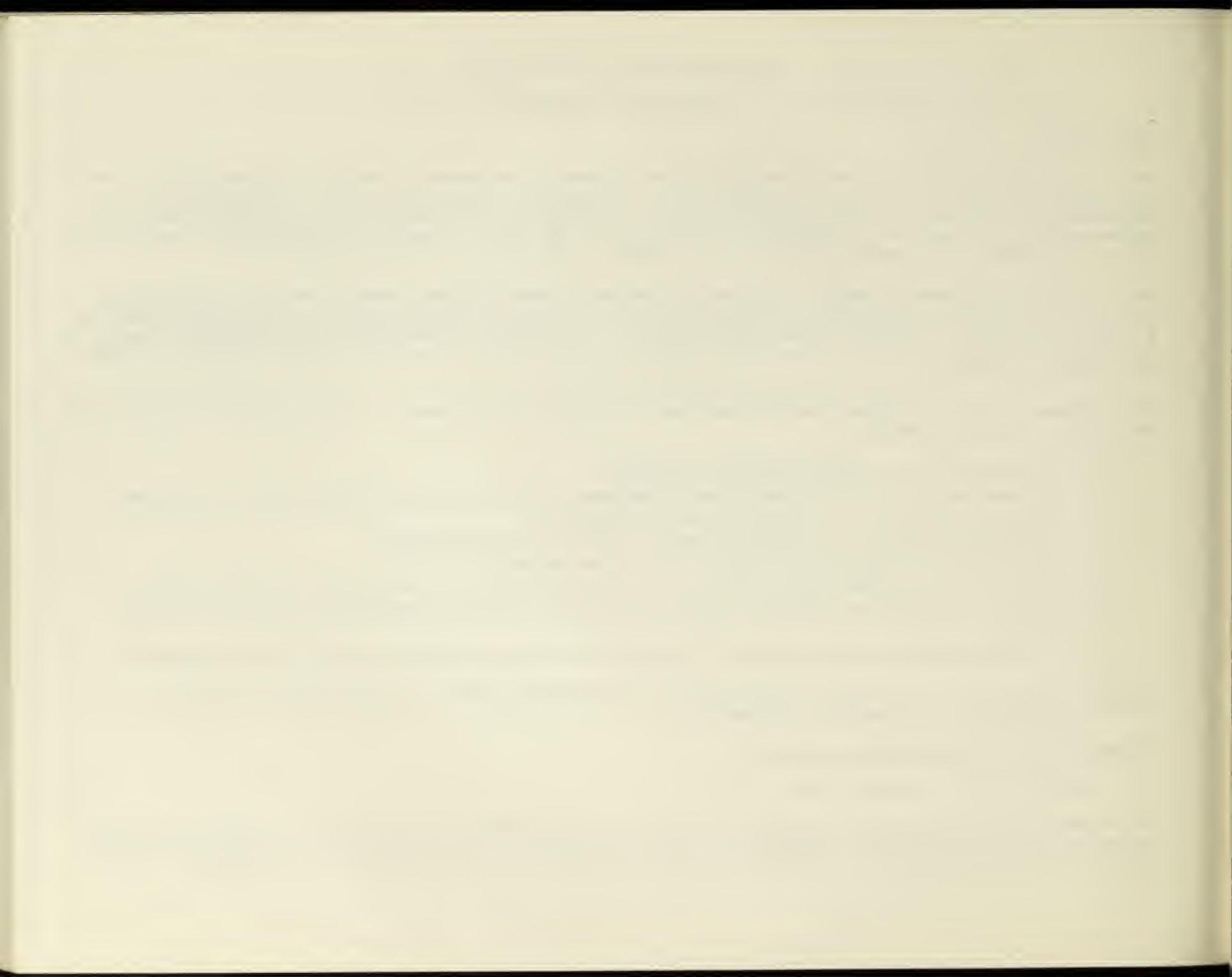
1. A description of the proposed project or program.
2. The relationship of the proposed project or program to regional and local land use plans, development policies, and controls for the potentially impacted area.
3. The probable impact of the proposed program or project on the environment.
4. Discussion of any major alternatives to the proposed action.
5. Probable adverse environmental impacts of the proposed project or program which cannot be avoided.
6. The relationship between potential short-term uses and long-term productivity of TSM or LRE projects or programs.
7. Any irreversible and/or irretrievable commitments of resources for TSM or LRE projects or programs.

In the balance of this environmental assessment of the Transportation Plan, the combined assessment of the LRE and TSME components of the Plan will be presented.

Transportation Plan Environmental Assessment

## (1) DESCRIPTION OF THE PROPOSED ACTION

The proposed action is to submit a unified Transportation Plan document to the four agencies which together constitute the Metropolitan Planning Organization (MPO) for the Lower Pioneer Valley Region. Subsequently, the MPO must approve and endorse the Plan. The area potentially affected by the Transportation Plan includes





the LPVRPC's entire planning district of both Hampden and Hampshire Counties in Western Massachusetts.

The Transportation Plan includes the adopted goals, policies, and objectives for transportation planning in the region. The proposed goals of the transportation plan focus on achievement of a "safe and dependable transportation system for the movement of people and goods both within and through the region that is: multimodal, coordinated, efficient, and environmentally sound." The transportation policies and objectives are designed to further the achievement of these goals.

In order to achieve the established goals of the Transportation Plan, a program of recommended short-range (TSM) and long-range (LRE) projects is set forth in the Plan.

The proposed Transportation Plan for the region includes the following short and long-range projects and programs which have been described in detail earlier in this document.

#### Transportation Systems Management (TSM) Short-Range Projects and Programs

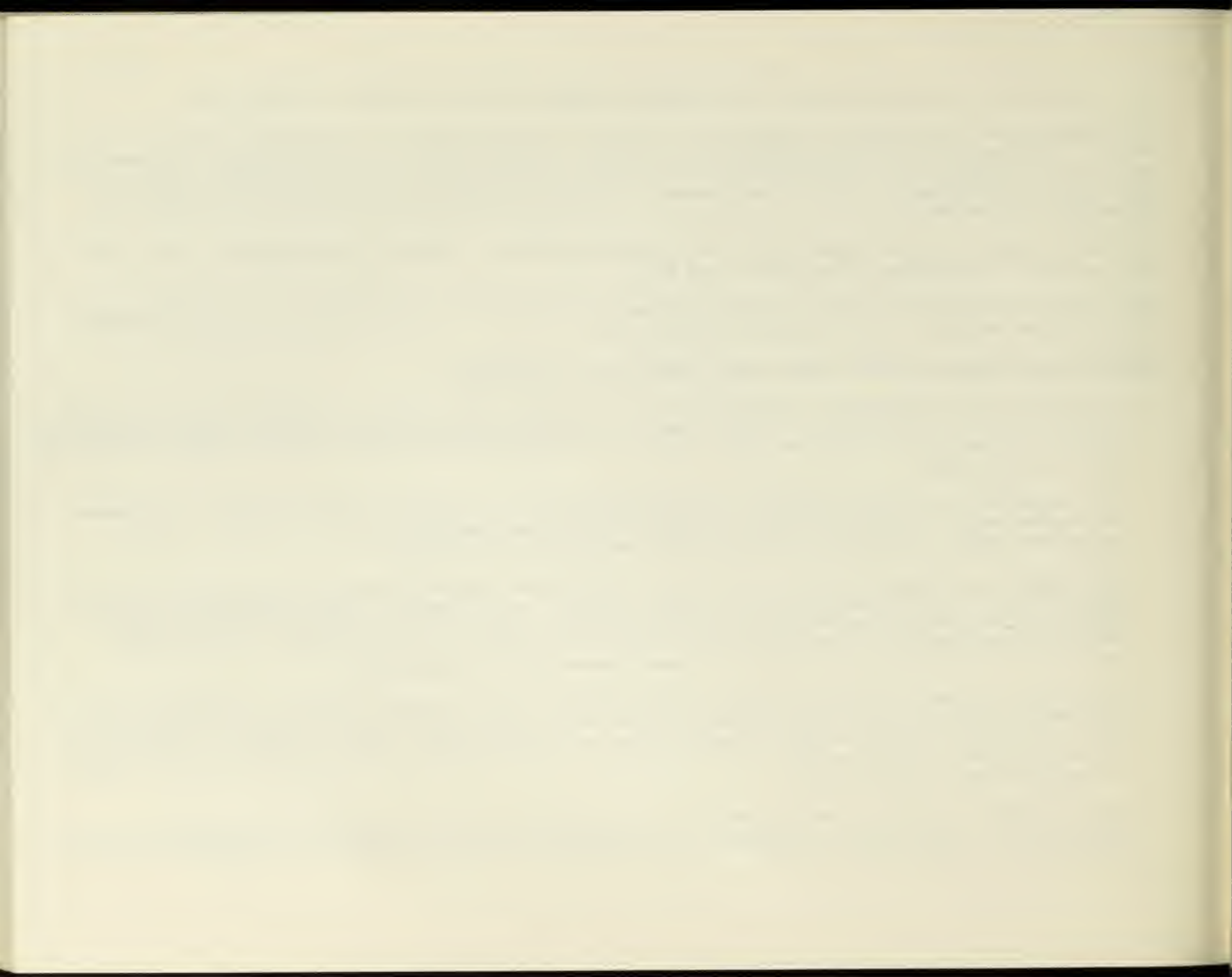
1. Traffic Operations Improvements to manage and control the flow of motor vehicles including: (1) Channelization of traffic, (2) One-way streets, (3) Better signalization and progressive timing of traffic signals, (4) Metering access to freeways; (5) Computerized traffic control, (6) Reversible traffic lanes; and (7) Other traffic engineering improvements.

LPV Communities with Traffic Operations Improvement Programs either currently being implemented or programmed for implementation (Please see Section III for details): Agawam, Amherst, Chicopee, Easthampton, Holyoke, Longmeadow, Ludlow, Springfield, West Springfield, Westfield, and Wilbraham.

Environmental Assessment - The several projects in this category include intersectional improvements (widening, channelization, etc.) and modifications to traffic signals. The net result of these improvements will be to improve the capacity and flow of through and turning movement traffic at intersections. The minimal land acquisition and construction required for these improvements should be more than offset by the reductions in vehicle pollutant emissions resulting from present intersectional traffic delays.

2. Preferential treatment for transit and other high-occupancy vehicles including: reserved or preferential lanes on freeways and city streets; exclusive lanes at toll plazas with provisions for non-stop toll collection; conversion of selected downtown streets to exclusive bus use; exclusive access ramps to freeways; bus pre-emption of traffic signals; special turning lanes or exemptions of buses from turning restrictions; strict enforcement of reserved transit rights of way.

LPV communities in which preferential treatment for transit and other high occupancy vehicles are either currently being implemented or is programmed for implementation (Please see Section III for details on projects): Springfield.



Environmental Assessment - Transit/Pedestrian Mall and Contra-flow bus lane should reduce private auto traffic and air pollutant emissions.

3. Actions to ensure the efficient use of road space - Appropriate provisions for pedestrians and bicycles such as: Bicycle paths and exclusive lanes on roadways, Pedestrian malls and other means of separating pedestrian vehicular traffic, secure and convenient storage for bicycles, and other bicycle facilities.

LPV communities in which actions to ensure the efficient use of roadway space are either currently being implemented or are planned for implementation (Please use Section III for project details): Agawam, Amherst, Northampton, and South Hadley.

Environmental Assessment - The proposed improvements should encourage the energy efficient and non pollutant modes of bicycle and pedestrian traffic, with the potential for positive long-range environmental benefits.

4. Management and control of parking through: Elimination of on-street parking, especially during peak periods; regulation of the quantity and pricing of public and private parking spaces; favoring parking by short-term users over all-day commuters; provision of fringe and transportation corridor parking to facilitate transfer to transit and other high occupancy vehicles; strict enforcement of parking restrictions.

The following LPV communities have management and control of parking programs either currently being implemented or programmed for implementation: Chicopee and Springfield.

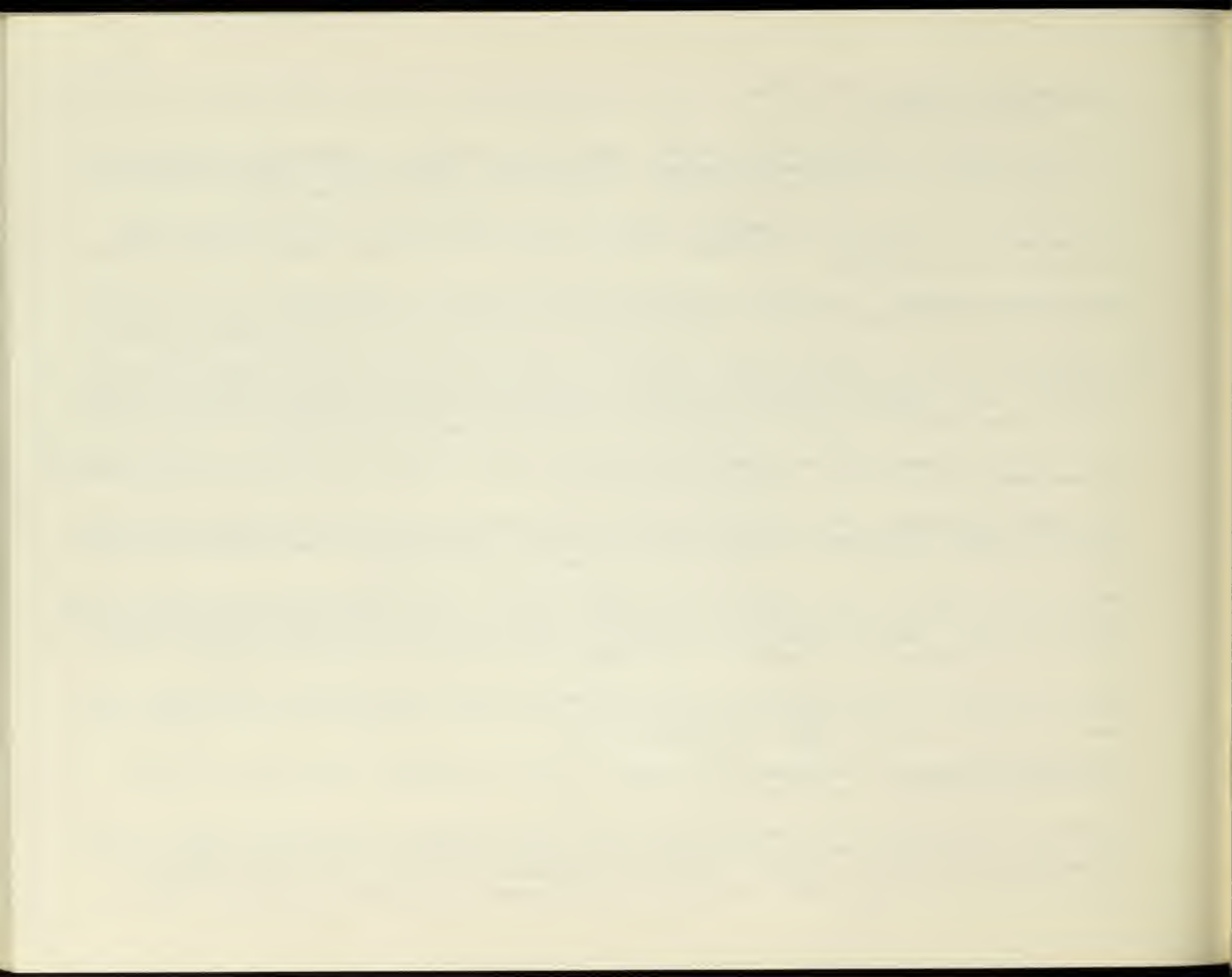
Environmental Assessment - The provision for parking on the perimeter of the Springfield Downtown area should reduce auto travel and pollutant emissions on downtown streets. The elimination of angle parking in Chicopee's Downtown should help improve traffic flow by reducing congestion and pollution.

5. Actions to reduce vehicle use in congested areas through: Changes in work schedules, fare structures, and automobile tolls to reduce peak period travel and to encourage off-peak use of transportation facilities and transit services through: Staggered working hours, flexible work hours, reduced transit fares for off-peak transit users, and increased peak hour commuter tolls on bridges and other access routes to urban centers.

The following LPV communities are either currently implementing or have programmed for implementation various actions to attempt to reduce vehicle use in congested areas (See Section III for details): Springfield and several other communities in Hampden and Hampshire Counties.

Environmental Assessment - The staggered and flexible work hours have somewhat reduced peak hour traffic congestion and pollution by spreading the peak hour of travel.

6. Actions to reduce vehicle use in congested areas through: the encouragement of carpooling and other forms of ride sharing; the diversion exclusion and metering or auto access to specific areas; area licenses, parking surcharges and other forms of congestion pricing; the establishment of car-free zones and the closure of selected streets to vehicular traffic; and restriction on downtown truck deliveries during peak hours.





The following LPV Area communities are either implementing or have programmed for implementation actions to reduce vehicle use in congested areas: All Hampden and Hampshire County communities containing major employers or are residences of employees who work at the region's major employers (Please see Section III for details).

Environmental Assessment - Carpooling/Vanpooling programs in the region have substantially reduced the number of vehicles on the road for work commuting, thus improving air quality, traffic safety, and roadway maintenance considerations and costs.

7. Actions to improve transit service through: Provision of better collection, distribution, and internal collection services within low density areas; greater flexibility and responsiveness in the routing/scheduling, and dispatching of transit vehicles; Provision of express bus services in coordination with local collection and distribution services; Provision of shuttle transit services from CBD fringe areas to downtown activity centers; Encouragement of jitneys and other flexible paratransit services; Simplified fare collection systems and policies; Provision of shelters and other passenger amenities; Better passenger information systems and services.

These programs and projects are either currently being implemented or are programmed for implementation in the 21 community service area of the PVTa.

Environmental Assessment: The proposed transit facility and service improvements should improve transit utilization, and reduce private auto vehicle dependency, traffic, and air pollution in the region.

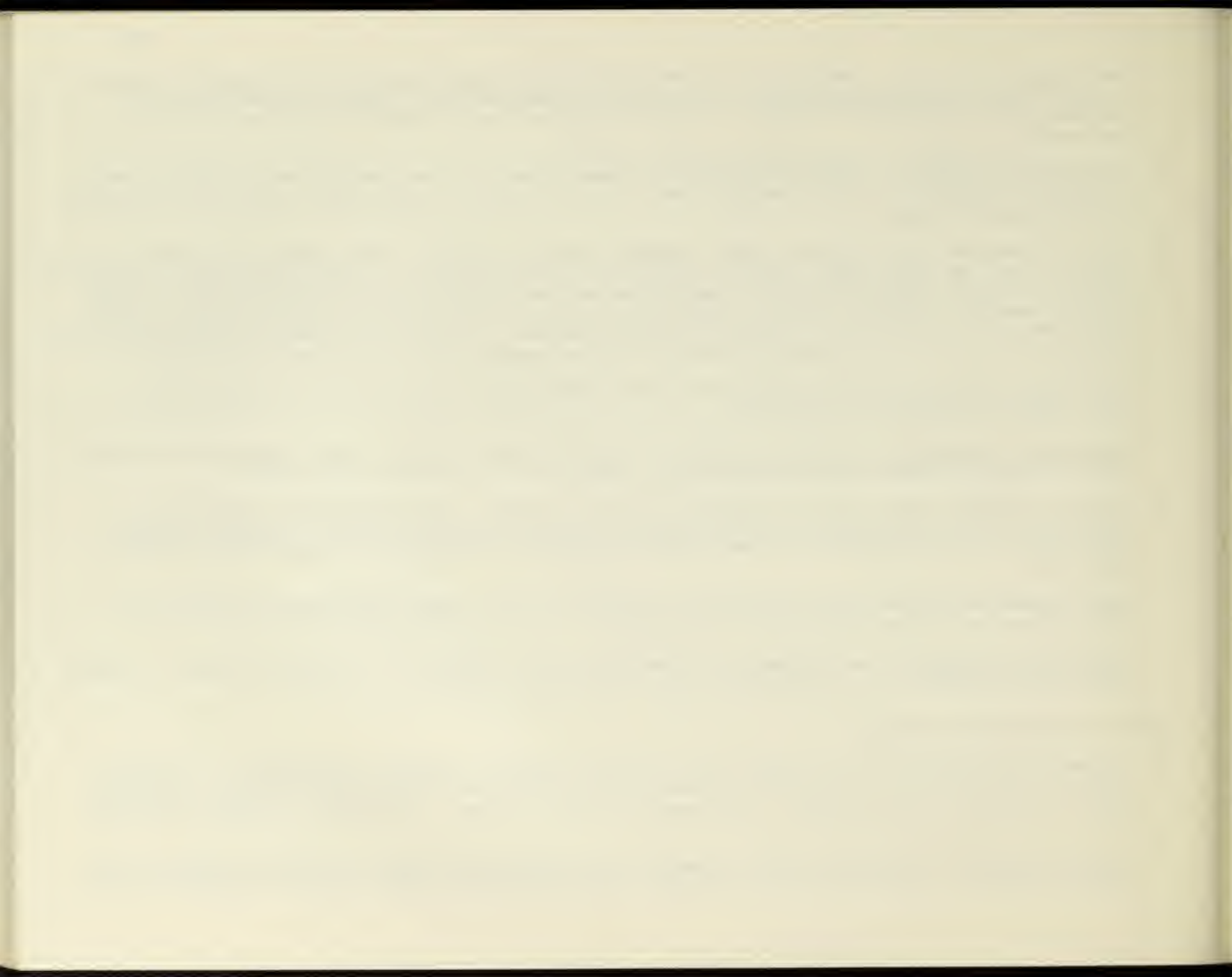
8. Actions to increase internal transit management efficiency including: Improved Marketing; Development of Cost Accounting and other management tools; Establish improved maintenance policies for improved equipment reliability; Utilize surveillance and communications technology to develop real-time monitoring and control capability.

These programs and projects (Please see Section III for details) are either currently being implemented or are programmed for implementation in the 21 communities in the LPV service area.

Environmental Assessment - The improvement of transit management operations in the region will serve to improve overall transit service with no anticipated negative environmental impacts.

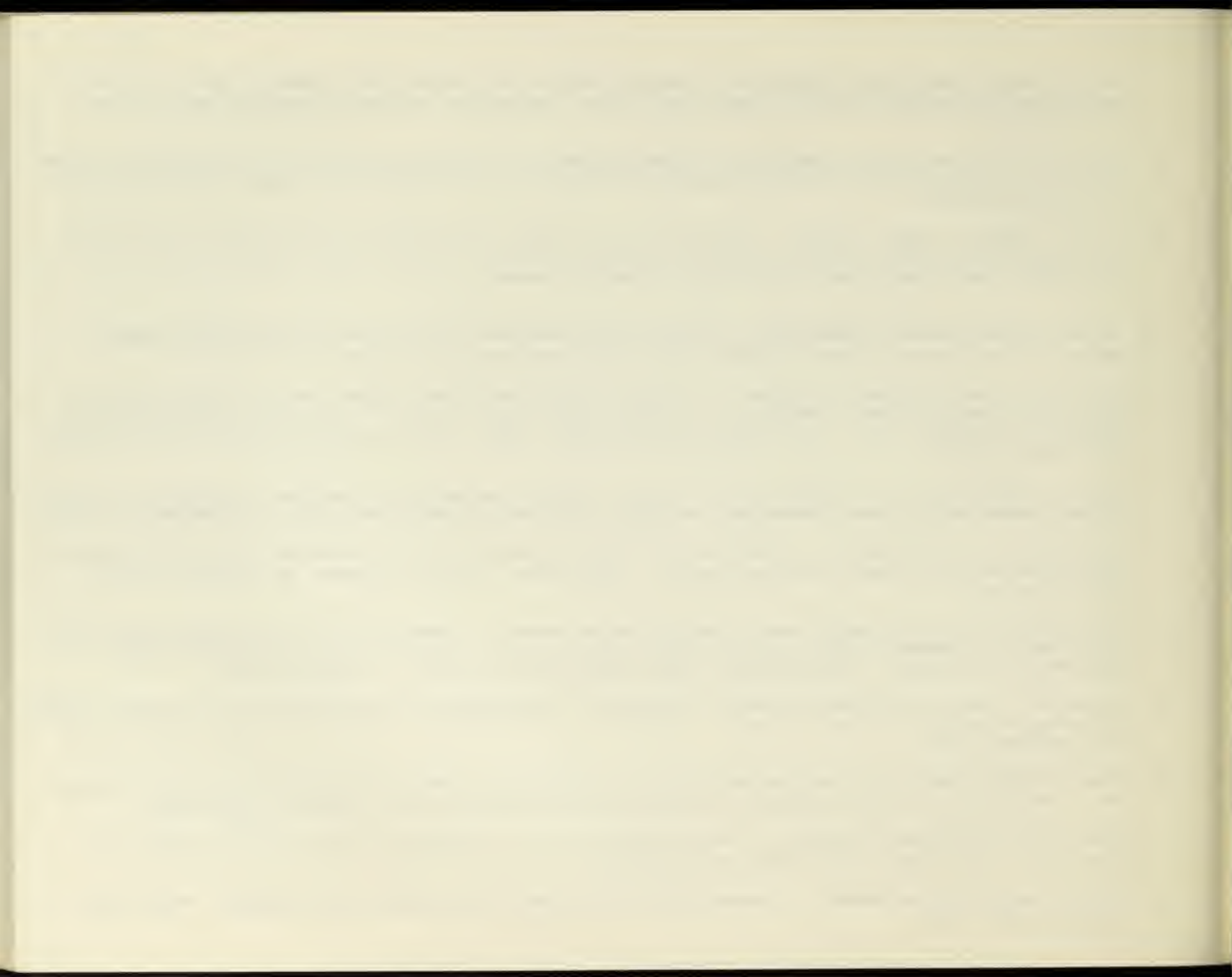
#### Long-Range Element (LRE) Projects:

1. Northampton-Springfield-Hartford highway, rail, and transit corridor - includes the upgrading of the highway corridor to eliminate peak hour capacity problems possibly through use of high-occupancy vehicle and improved commuter bus and rail transit service. Some highway widening possible. The proposal would reduce congestion and air pollution in the corridor.
2. Northampton-Amherst highway/rail corridor - highway and bus transit improvements to resolve developing highway capacity problems. Possible long-range use of rail line in corridor for shared bikeway, or commuter rail uses.





3. Route 20/Boston Road corridor (Springfield) - Proposed widening and possible grade separation on Route 20 in the East Springfield commercial area to improve traffic flow. The project would reduce congestion and pollution in the corridor.
4. Route 10/202 highway corridor (Westfield) - Several proposed re-routing alternatives of an intra-regional highway through Westfield to bypass the downtown business district area. The proposal would reduce traffic congestion in the Westfield CBD.
5. Route 57 highway corridor (Agawam) - Examination of two possible improvement options to correct traffic safety and capacity deficiencies on existing Route 57 in Agawam including: (1) MDPW's prepared Route 57 bypass, and (2) LPVRPC's improvement package for the existing Route 57 roadway.
6. Route 32 highway corridor (Palmer-Ware) - Proposed minor realignment and widening to intra-regional highway Route 32 through Palmer and Ware to improve traffic safety and capacity conditions.
7. Route I-391 Downtown Connector (Holyoke) - A connector/distributor highway segment that will connect with the new I-391 Connecticut River Bridge and the downtown business area of Holyoke. The connector will consist of an upgrading of existing streets. The proposal should improve traffic flow, and reduce the potential for pollution in the Holyoke CBD.
8. Route 66 Reconstruction (Westhampton and Huntington) - A partial reconstruction and minor realignment of a rural highway segment serving these communities. The project will improve traffic safety along this segment of highway.
9. Crosstown Artery (Springfield) - A realignment and minor widening of a set of north-south streets on the eastern edge of the Springfield Central Business District. Traffic flow should be improved, and pollution reduced in the corridor.
10. Springfield Downtown I-91 Ramp System and Memorial Bridge Access - A reconstruction of ramp system access/egress to Springfield's Memorial Bridge to permit entrance and exit without present mix with I-91 frontage road (Columbus Avenue) traffic. The ramp system should improve traffic safety and reduce pollution.
11. Johnson Hill Road reconstruction and bridge replacement - The realignment and reconstruction of a critical section of roadway and bridge in a rural hilltown. Reconstruction of the road and bridge will eliminate longer, pollution creating detours.
12. Route 116 Bridge Replacement (Holyoke-South Hadley) - Replacement of narrow, out-moded bridge with wider, newer one. New bridge should reduce congestion and resultant pollution at bridge and enhance traffic safety.
13. Route 116 Reconstruction (Plainfield) - Minor reconstruction and realignment of about 6 miles of Route 116 in Plainfield. Reconstruction will improve traffic safety.
14. Route 20 Reconstruction (Russell) - Reconstruction of just over 2 miles of Route 20 in Russell. Project will improve traffic safety.



15. Route 143 Corridor Reconstruction Proposal (Chesterfield-Williamsburg) - Reconstruction of segments of rural 2-lane intra-regional highway. Project should improve traffic safety and capacity in this corridor.
16. Bradley International Airport - Continuing expansion of terminal facilities and operations. Continued development of Bradley will allow more efficient use of existing airport facilities in the region.
17. Barnes Airport (Westfield) - Development as regional airfield serving commercial and private air passenger needs. Continued development of existing air facility reduces need for additional construction.
18. Westover Airfield and Industrial Park - Establishment of regional air cargo center at Westover. Efficient re-use of existing major air terminal facility in region.
19. Main Street Transit/Pedestrian Mall (Springfield) - Planned conversion of 4-block section of Main Street to transit roadway/pedestrian walkway. Project would encourage energy efficient transit and pedestrian travel in downtown area.
20. LPV Region bikeway and waterfront transportation - recreation projects - Planned development of Chicopee-West Springfield Bikeway Bridge, 5-College Bikeway proposal (Amherst-South Hadley-Northampton). Development of recreational waterway transportation on Springfield's Connecticut River waterfront. Bikeway projects will encourage highly energy-efficient transportation.

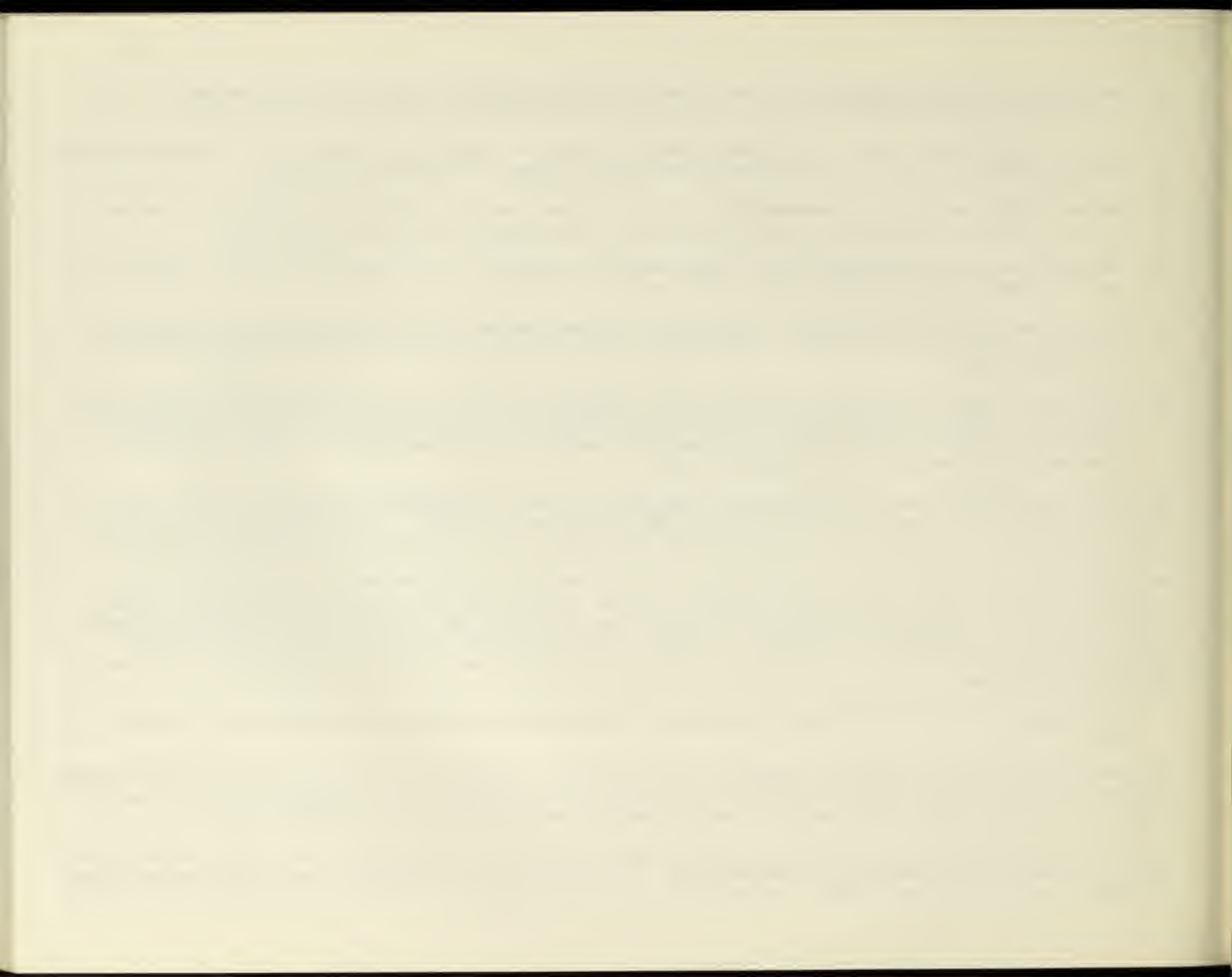
The 1980 Transportation Plan for the LPV Region represents the first comprehensive revision and integration of the TSM and LRE Plan Elements that were first prepared for the Region in 1977. The Transportation Plan should be revised periodically and each revision should include improvements in data input and plan formulation procedures.

The advancement of Transportation Plan programs and projects proposed in this document toward implementation is subject to a process which includes plan refinement studies, individual project and program environmental impact studies, public hearings, project programming and scheduling, project design, and all the requirements associated either with actual construction or with the initiation of services. These various steps in the implementation process should provide additional opportunities to reassess the environmental and other impacts of the proposed projects and programs.

## (2) RELATIONSHIP OF THE PROPOSED PROJECT OR PROGRAM TO LAND USE PLANS POLICIES, AND CONTROLS FOR THE AFFECTED AREA

The Transportation Plan is a required document of the continuing, comprehensive, cooperative transportation planning process, according to Section 450.116, Title 23, or the Federal Regulations. The Transportation Plan has been proposed to the Lower Pioneer Valley Regional Planning Commission as an amendment to the Regional Plan.

The Regional Growth Plan for the Lower Pioneer Valley Region indicates the recommended locations for new development and for revitalization of particular developed areas. It also indicates the recommended intensities of development for these locations to the year 2000. The specified locations for growth were based primarily upon three considera-





- tions:
- 1 - The identification of developable land in the region free of significant environmentally critical areas.
  - 2 - The Regional Growth Policies (adopted - 1976), particularly those concerning reinforcement of the Region's urban core, attracting growth in smaller towns to their centers, and the clustering of new development.
  - 3 - The Commission's Regional Growth Policy Report, which summarizes the local growth policy statements of the responding municipalities of the Region, and from which emerges a clear statement with respect to the preservation of unique local character.

The Transportation Plan is also consistent with the Connecticut River Basin Plan, and it specifically includes policies to implement recommendations for the location of transportation facilities with respect to flood hazard areas, which are included in the recent Flood Management Study of the Connecticut River Basin Program as a supplement to the Basin Plan.

The Transportation Plan is also consistent with the State and local Growth Policies developed through the process established by Chapter 807 of the 1975 Acts of the Massachusetts General Assembly. For the most part these policies and the Transportation Plan support development or redevelopment of existing town and urban centers, and controlled and planned growth in the region and protection and/or enhancement of the environment as a criteria for transportation planning.

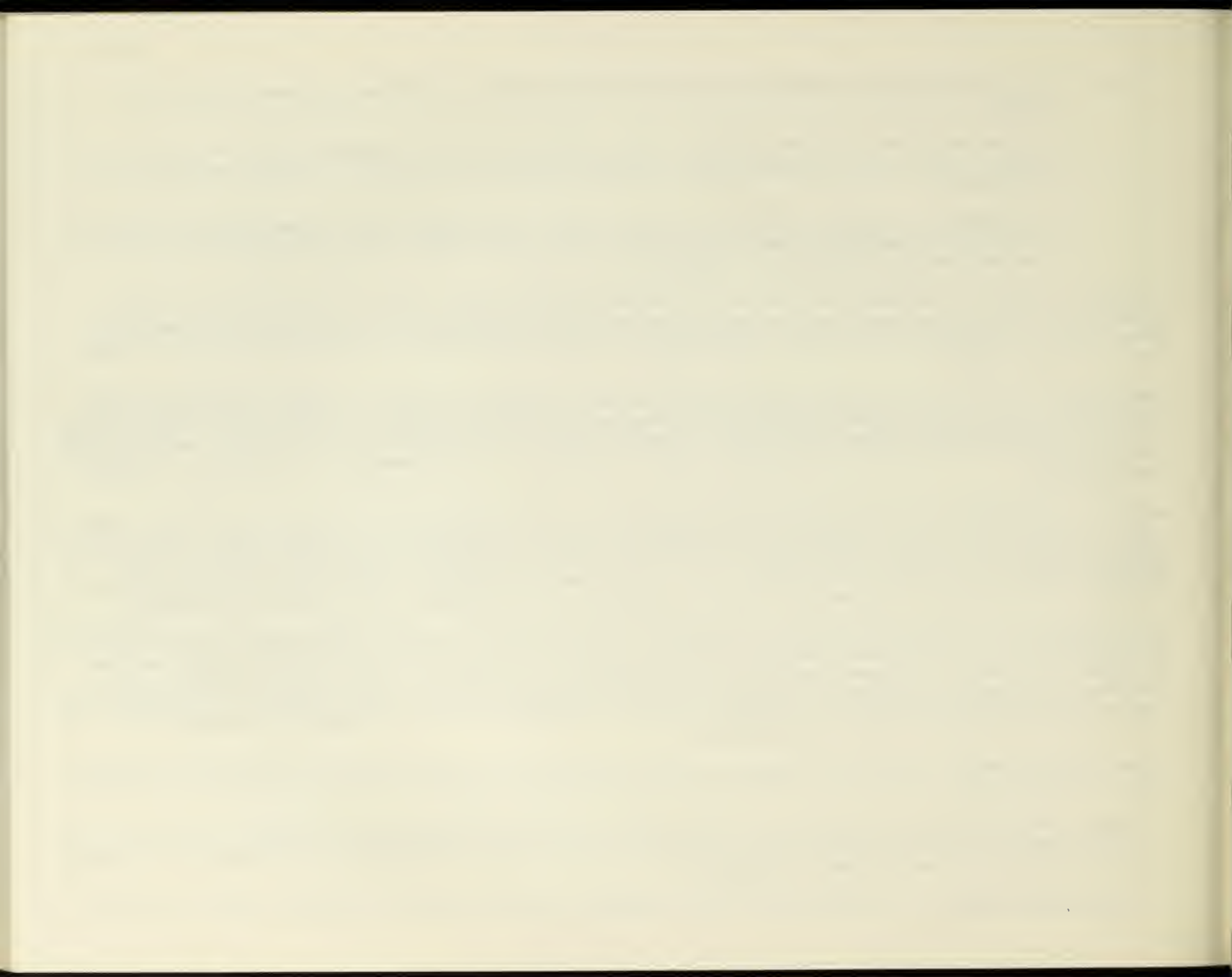
Air Quality considerations were considered important factors in the preparation of the Transportation Plan. The goals, policies, and objectives contained in the document emphasize the preservation and enhancement of transportation planning in the area, as well as development. The long-range projects proposed either have relatively minor negative impact on air quality in the region or, as in the case of the proposed Transit/Pedestrian Mall in Downtown Springfield, the project or program will actually contribute to the enhancement of air quality in the region.

The Transportation Plan for the LPV Region was prepared to be consistent with the Transportation Element of the State Implementation Plan for the Lower Pioneer Valley Region which was prepared in 1979. In addition to its commitment to specific air quality improvement measures, the requirements for the 1979 SIP placed a primary emphasis on a commitment to a continuing process for transportation planning and programming. This commitment to a process should lead to the expeditious development, evaluation, selection, and implementation of comprehensive transportation control strategies aimed at reducing air pollution.

Other regional planning considerations which are related to Transportation Plan facilities and program development include the following:

Energy - Goals, Policies and Objectives included in the Transportation Plan support the energy conservation planning recommendations of the State's Office of Energy Resources, and a Preliminary Energy Conservation - Transportation Plan for the Lower Pioneer Valley Region.

Food and Agriculture - The Transportation Plan is consistent with the State's policies for food and agriculture





through its stated policy of deterring development in flood plains and agricultural areas.

Economic Development - The Transportation Plan is consistent with the State Economic Development Plan and similar local efforts through its policies supporting improved transportation facilities while maximizing investment in existing facilities and urban areas.

Housing - The Transportation Plan is consistent with Department of Community Affairs housing planning efforts and the region's recently adopted Areawide Housing Opportunity Plan (AHOP). The Areawide Housing Opportunity Plan is the Section 701 Housing Element of the LPVRPC's Regional Growth Plan. The AHOP includes an areawide assessment of housing assistance needs, a procedure for distributing housing assistance, percentage goals for housing assistance, and goals for outreach activities. The AHOP implementation program is designed to further the objectives of increasing housing opportunities outside areas and jurisdictions containing undue concentrations of low income or minority households.

Outdoor Recreation - The Transportation Plan is consistent with the region's outdoor recreation program and with the statewide Comprehensive Outdoor Recreation Plan.

Areawide Water Quality Management Plan - The Transportation Plan is consistent with and coordinated with the State's activity in this field of planning (Section 208, of the Federal Water Pollution Control Act PL95-217) and is also consistent with the LPV Region's recently developed and adopted 208 Plan and Program.

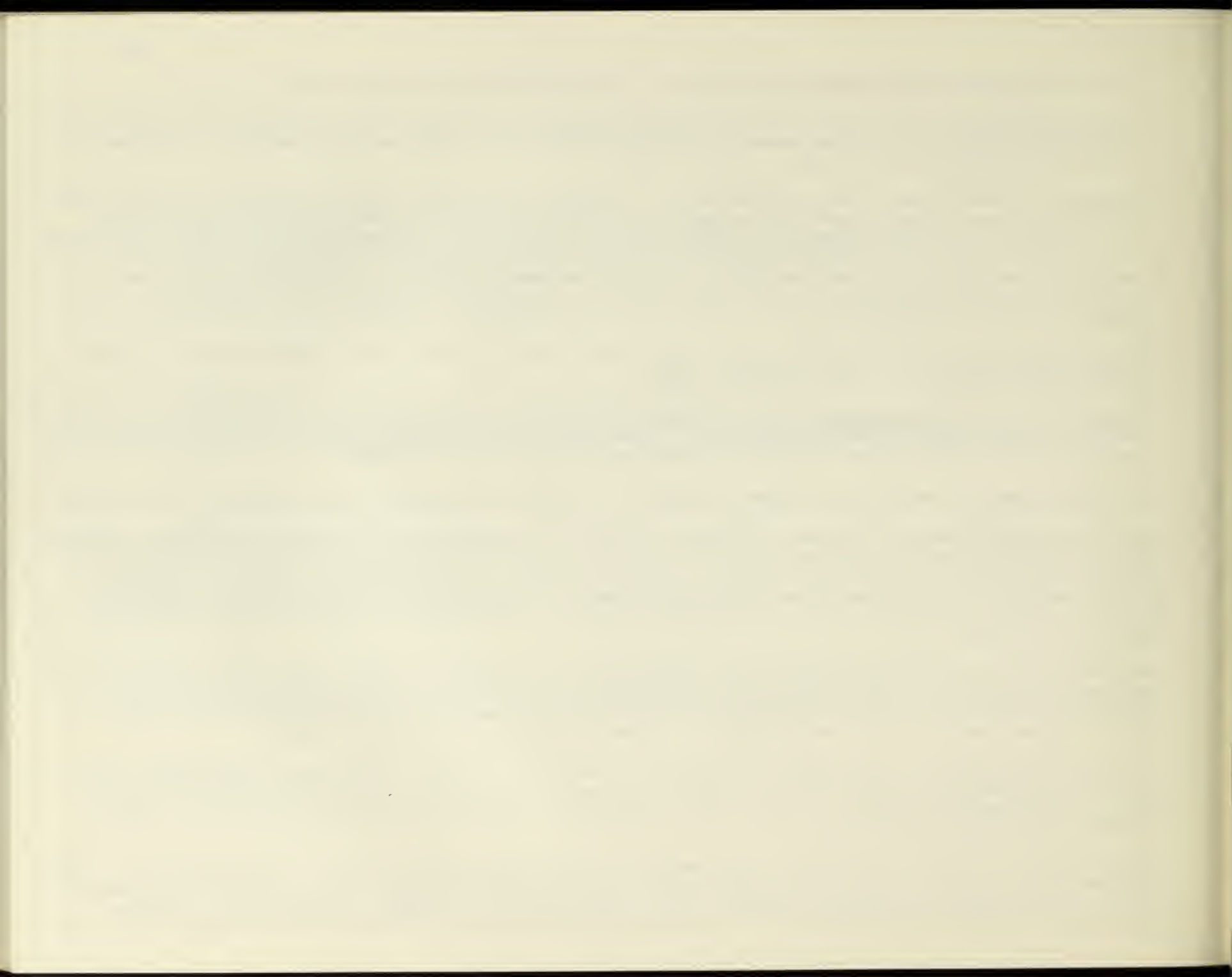
### (3) PROBABLE IMPACT OF THE PROPOSED PROGRAM OR PROJECT OF THE TRANSPORTATION PLAN ON THE ENVIRONMENT OF THE REGION

Since the proposed projects or programs included in the region's Transportation Plan are being submitted for approval to the Metropolitan Planning Organization (MPO) any resultant impact on the environment resulting through implementation of the proposals, will be in accord with the pursuit in the goals and objectives in the Plan. The goals, policies, and objectives included in the Transportation Plan are intended to foster the avoidance of environmental damage and support transportation planning and program and facility development which would enhance environmental quality in the region.

Individual projects and programs proposed in the Transportation Plan should be subject to more detailed environmental impact assessment in the process of implementing such projects. Some may have minor adverse impacts through: necessitated property acquisition, the traversing of environmentally sensitive areas, the altering of the character of the land use of adjacent land, and the creation of adverse secondary environmental effects.

The following Transportation Plan programs and projects, in particular, may have some negative environmental impact in either their construction and/or final implementation stage. In all cases, however, the long-term net positive impact of the programs or projects included in the Transportation Plan will counter-balance the negative aspects of incorporated projects and programs.

TSME (Short-Range) Projects and Programs: Only those short-range projects which involve either the widening or other realignment of an intersection or the construction of an exclusive lane for carpool, bus, or bikeway operations may result in minor negative environmental impacts. However, the reduction or avoidance of air-polluting emissions particularly by private autos as a result of these TSM projects, as well as other environmental benefits, (i.e. con-



struction) and, therefore, are very unlikely to result in negative environmental impact.

LRE (Long-Range) Projects and Programs: Nearly all Long-Range Projects and Programs involve either major construction or implementation or major new transportation service and, therefore, will involve some degree of negative environmental impact in the construction and/or post implementation phase. However, the negative impact of these projects is at least balanced, if not significantly over-compensated by the resulting positive impacts of the projects. This condition applies to all of the highway construction and transit service upgrading projects included in the Long-Range Element Section of the Transportation Plan.

#### (4) ALTERNATIVES TO THE TRANSPORTATION PLAN'S PROPOSED PROGRAMS AND PROJECTS

The first and most basic alternative to be considered with respect to the Transportation Plan is not having such a plan. In such a case it is reasonable to assume that the lack of a plan in and of itself would be more likely to eventually result in more environmental damage (through a lack of coordination and restraint) than having such a plan.

The policies and objectives included in the Transportation Plan support the protection and/or enhancement of the environment and discourage transportation programs and projects that might be environmentally damaging.

The formulation of the recommended programs and projects of the Transportation Plan was based on a review of a number of proposed improvement projects with respect to transportation planning goals, policies, and objectives, and with respect to environmental impacts. Those programs or projects which would have been excessively damaging to the environment were not included in the document's recommendations, including those that were subject to further consideration of alternatives in the course of project development and implementation activities. In many cases highway route alignments must still be finally determined or plans and programs must be further refined and these refinements should include consideration of alternatives for those individual projects and programs.

#### (5) PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

There may be some adverse environmental effects resulting from some of the programs and projects in the Transportation Plan which cannot be avoided. These would be those impacts that would result from highway route reconstruction where property acquisition would be required or where major changes would result from the impact of the transportation program or project on adjacent land, of either a temporary or permanent nature. Transportation Plan projects where such unavoidable environmental impact might occur include the following:

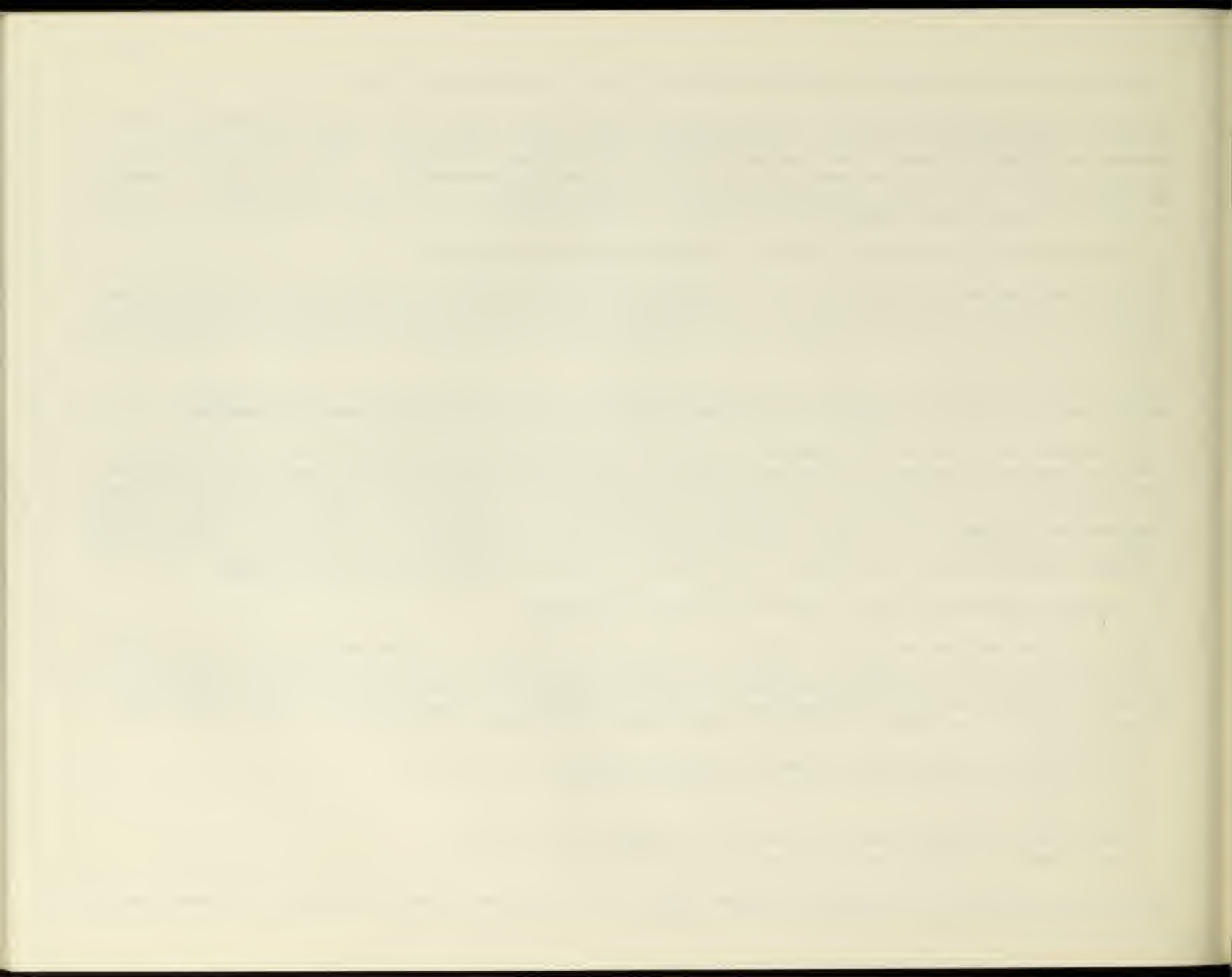
##### TSM Programs:

- Reconstruction or Upgrading of Pavement and Roadway Geometrics on Bus Routes
- Development of Park-and-Ride Facilities on PVTA Bus Routes

##### LRE Programs:

- All of the Long-Range Highway Rail/Transit and Highway/Transit Projects
- The Connecticut River Bikeway/Waterway Transportation Project

The potential impacts of the preceding programs and projects should be defined in more detail in impact assessments prepared for the previously cited projects and programs.



(6) RELATIONSHIP BETWEEN SHORT-TERM TRANSPORTATION USES AND LONG-TERM PRODUCTIVITY

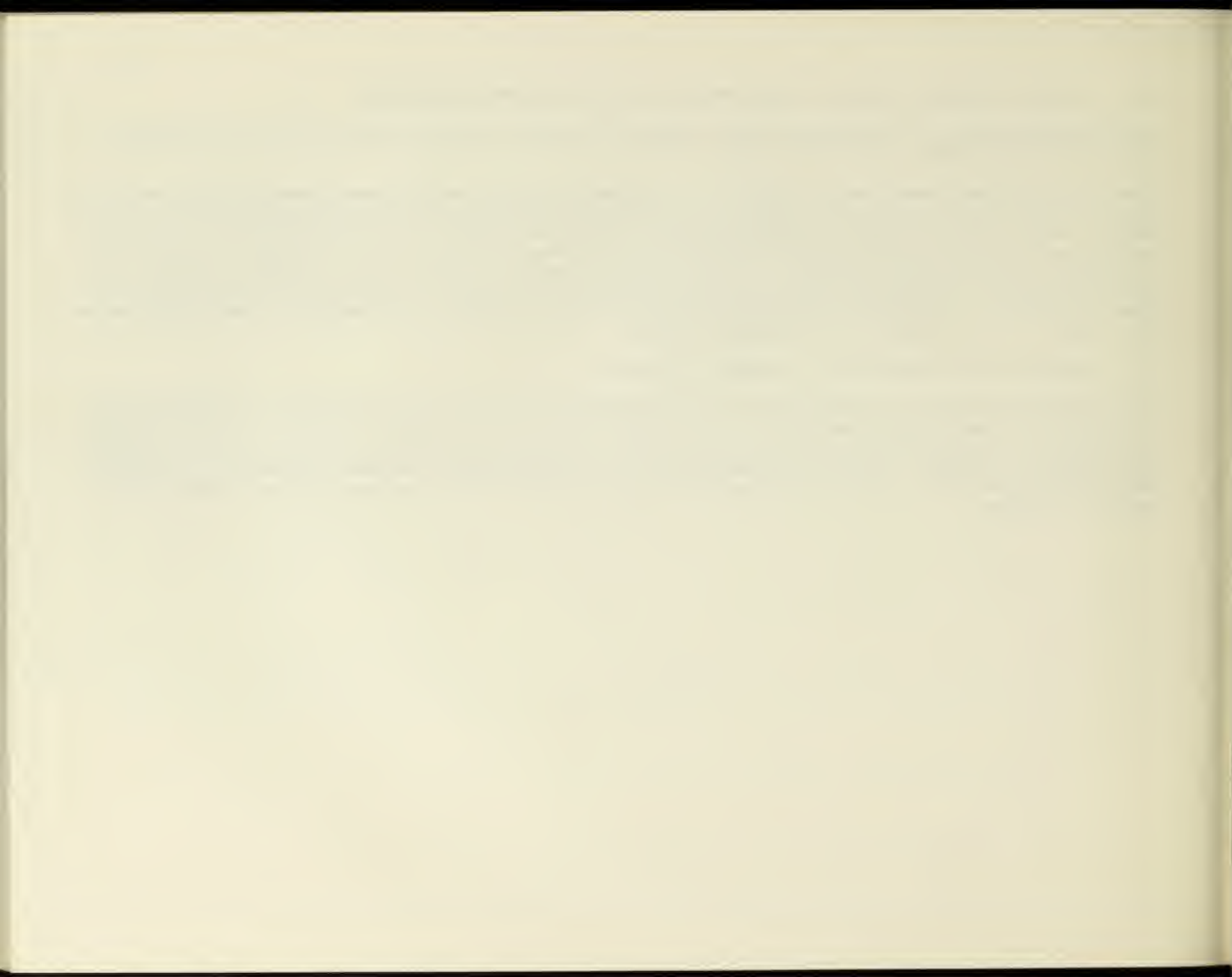
The Transportation Plan is a comprehensive plan document that attempts to address both the short and long-term transportation improvement needs of the region.

Since the Long-Range Element (LRE) is aimed at the long-term transportation improvement needs of the region, its focus is on long-term productivity. The LRE is complemented and supported by the Transportation Systems Management Element (TSME) which covers short-range transportation improvement projects and programs which will enhance air quality in the region, as well as low-capital or no-cost improvements which will achieve better use of existing transportation facilities and services. The TSM programs and projects proposed will not preclude any LRE options under consideration, while at the same time, those TSM projects and programs proposed should be consistent with those in the LRE. Both the TSM and LRE project proposals will be included in the Region's Transportation Improvement Program in an appropriate and coordinated schedule.

(7) IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The Transportation Plan for the LPV Region should be periodically revised so that there will be no irretrievable or irreversible commitments of resources by either short or long-range components of the Plan. Such commitments could occur with the implementation of any long or short-range project included in the region's annual Transportation Improvement Program. The project advancement process of the Transportation Plan and Transportation Improvement Program should retain adequate environmental assessment of any and all commitments for each transportation project or program.







LPV Transportation Plan  
Air Quality Considerations

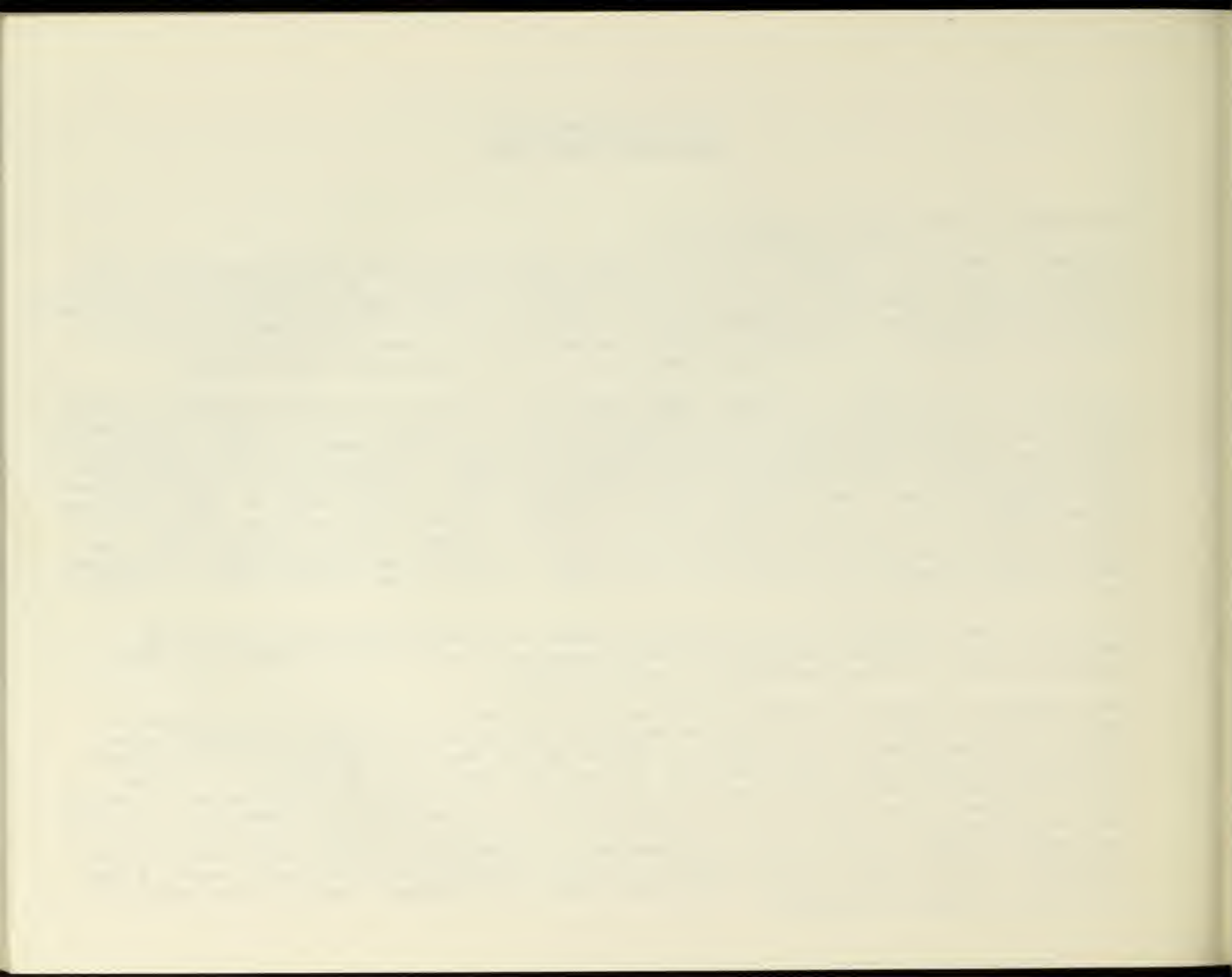
The State (Air Quality) Implementation Plan (SIP):

The Federal Clean Air Act Amendments of 1977 established various Federal, State, and Local requirements which mandate the expeditious attainment of national air quality health standards. The Act requires the achievement of these standards by December 31, 1982. A five year extension - to 1987, however is possible for carbon monoxide and photochemical oxidants if an individual state can demonstrate in its 1979 State Implementation Plan (SIP) that a 1982 attainment is not possible. It must be demonstrated that the state cannot meet this deadline despite the implementation of all reasonable stationary source and transportation control measures.

It is likely that air quality in the Lower Pioneer Valley Region will fail to meet the 1982 target for national standards for carbon monoxide and oxidants. This is partly due to the long lead time necessary for implementation of air quality control measures and also because not enough is presently known about which control measures are necessary and appropriate for implementation. Since the attainment of national air quality standards does not appear possible in the LPV Region by the 1982 deadline, the LPVRPC is required to have a continuing process for transportation planning and programming which will help the region to attain federal air quality standards by the extended deadline. This continuing process has now been instituted in the LPV Region utilizing the already existing "3C" transportation planning process in which the LPVRPC is the lead planning agency. The heart of the new process is the designation of the LPV Region's MPO as the lead planning agency for Transportation/Air Quality Planning in the Lower Pioneer Valley Region, a step which was confirmed by the U.S. Environmental Protection Agency in 1979.

In 1979 the LPVRPC completed the first Transportation Element of the State Implementation Plan (for Air Quality) for the Lower Pioneer Valley Region. This document sets forth the problem parameters and methods of solution proposed in order to meet federal air quality standards.

The LPV Region's Transportation Element of the Mass. SIP also presets a preliminary review of potential air quality control measures for the LPV Region and categorized each measure with regard to its utility to the region. The three categories of measures were: (1) those to which there should be a commitment to implement; (2) those that should receive further study and, (3) those which should not be implemented. The measures addressed air quality controls for all modes of transportation as well as operational transportation considerations. While most of the measures that were categorized under either Commitment to Implementation or to Further Study were TSM-related actions, a few are of such scale as to qualify as LRE projects. The potential LRE project measures included in the SIP were: Transit/commuter rail improvements in the Springfield-Hartford, and Northampton-Amherst corridors, and the possible construction of exclusive bus and/or carpool lanes in highway facilities in these or other corridors. The principal types of other measures committed to implementation in the LPV Region include the following:



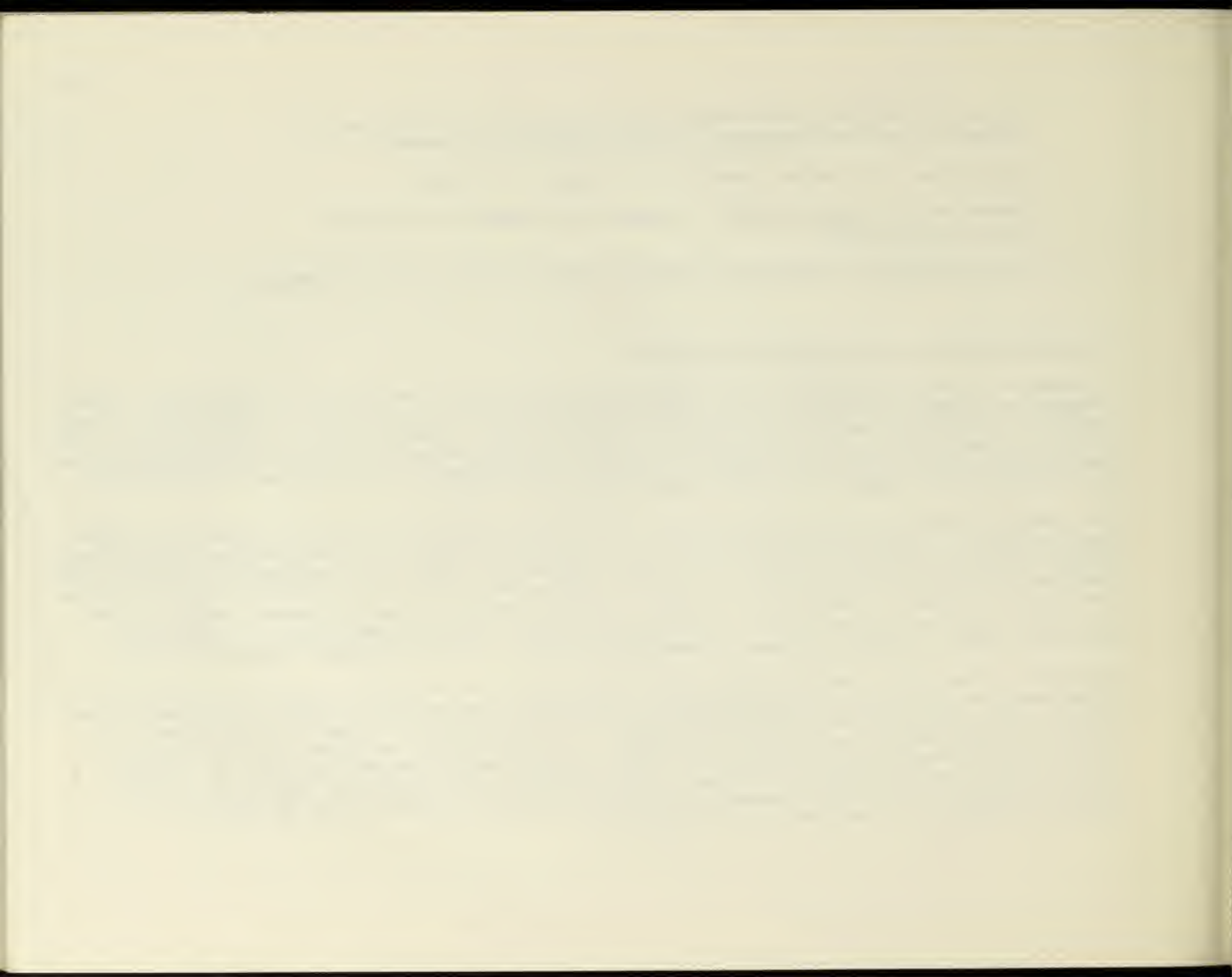
1. Transit and paratransit improvements including new buses and related capital equipment as well as improvements in transit management and marketing.
2. Continuation of the current carpool/vanpool program in the region.
3. Several regional bikeway projects, including the Chicopee-West Springfield Bridge/Bikeway Project.
4. Several TOPICS-type improvements targeted at specific streets and/or intersections.

#### Air Quality Analysis - Lower Pioneer Valley Region:

In August 1979 the LPVRPC completed a preliminary report on Air Quality Analysis for the Lower Pioneer Valley (Hampden and Hampshire Counties) as well as Berkshire and Franklin Counties in Western Massachusetts. Hampden, Hampshire, and Franklin Counties were combined to form the Pioneer Valley Air Pollution Control District, with Berkshire County forming a separate AQCR for the state which were combined in the report for analysis purposes. The air quality evaluation that this report is a part of, was conducted by the Massachusetts Department of Environmental Quality (DEQE) to develop statewide controls on air quality.

The primary concern of air quality analysis in the four Western Massachusetts counties included in the report were conditions in the Lower Pioneer Valley Region. The LPV Region - and specifically the Springfield-Chicopee-Holyoke metropolitan area does not meet the national standards for either total suspended particulates, carbon monoxide, or ozone. In accordance with the Clean Air Act Amendments of 1977, non-attainment areas such as the LPV Region must either (1) demonstrate attainment of National Ambient Air Quality Standards (NAAQS) by 1982, or (2) they must have in place by 1982 all reasonably available control measures (RACM) and schedules for additional control measures which when implemented would result in primary standard compliance by 1987.

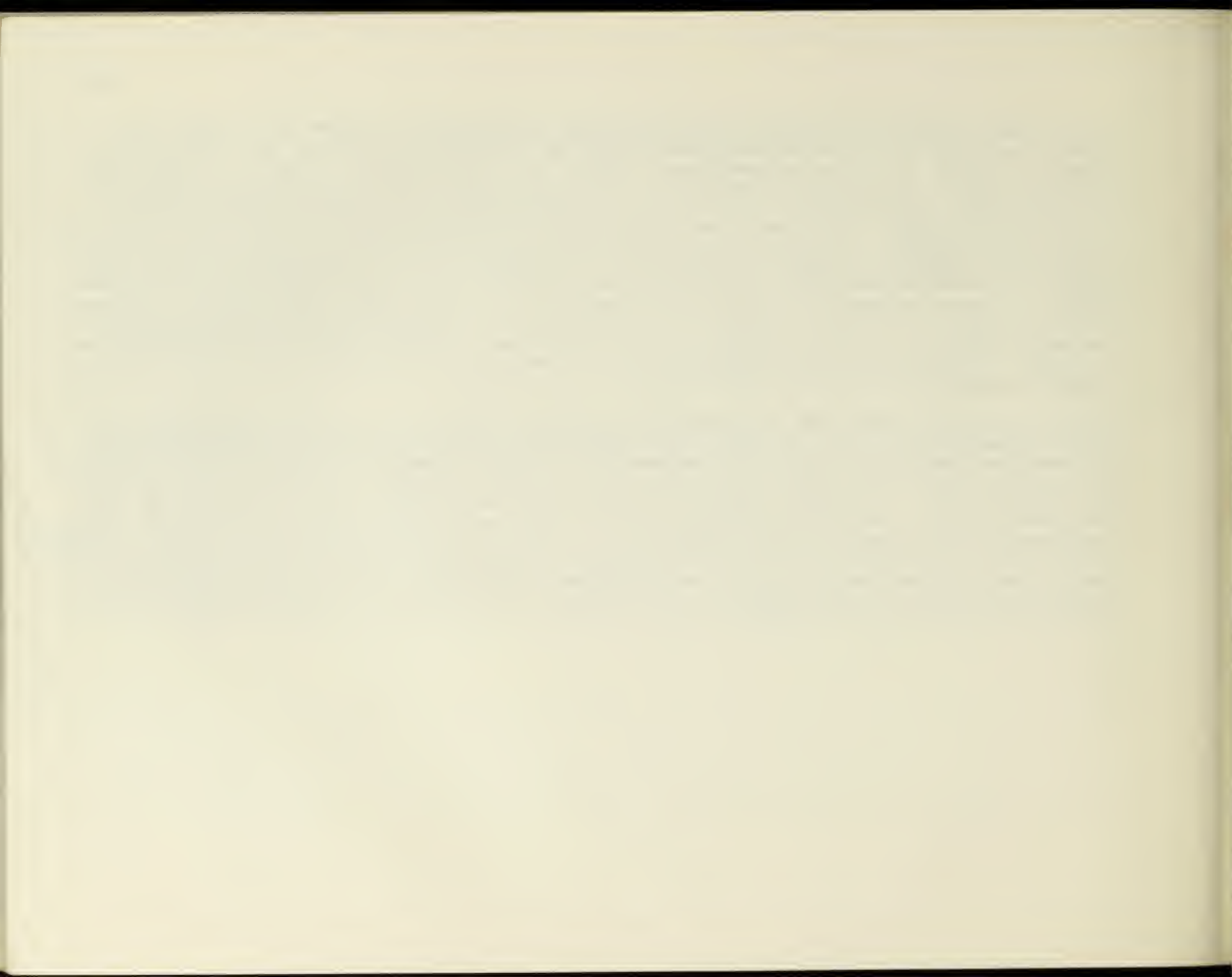
Therefore, the Air Quality Analysis Report provided input to the task of devising a way of quantifying the relationship between various pollution emissions in particular carbon monoxide and ozone, and various air quality indices. This relationship when established would allow a determination of the potential effect that certain emission abatement measures could have on air quality. The projections of emissions, and the effects of specific control measures could then indicate whether attainment of the standards were possible, and when. A plan of suitable control measures would then be developed which would result in the meeting of national air quality standards by the Western Massachusetts Air Quality regions (particularly the LPV Region) by the deadlines established by the Clean Air Act Amendments.



The previously summarized reports, the State (Air Quality) Implementation Plan (SIP), the Transportation Element for the LPV Region, and the Air Quality Analysis for the LPV Region represent this region's initial efforts to identify air quality considerations. However, the potential air quality impact of transportation projects considered for inclusion in the 1980 unified Regional Transportation Plan must also be evaluated in greater detail as part of the first year Section 175 transportation - air quality planning program to be initiated by the LPVRPC. This intensive and ongoing program is presently scheduled to begin during April, 1980. As part of this program, all relevant transportation plans, programs and projects developed as part of the 3C transportation planning process must be consistent with the Massachusetts SIP. Consistency of transportation plans and programs with the adopted SIP is defined as "reasonable progress toward the attainment of national ambient air quality standards as expeditiously as possible." In accordance with this consistency requirement, the MPO for the Lower Pioneer Valley Region, in consultation with the Department of Environmental Quality Engineering (DEQE), must annually determine what will constitute "reasonable progress" for the following year in terms of consistency criteria contained in an endorsed Memorandum of Understanding which governs federally-mandated transportation-air quality considerations.

Both the Long Range Element (LRE) and Transportation Systems Management Element (TSME) which constitute this unified Transportation Plan for the Lower Pioneer Valley Region have been developed in accordance with the aforementioned consistency criteria to the maximum extent possible. However, inasmuch as the LPVRPC has not yet completed a detailed and exhaustive evaluation of all potential transportation control measures and their air quality effects, it is not yet possible to precisely determine the consistency of all elements of this Transportation Plan. Consequently, although the Plan is considered generally consistent with the SIP, further refinements of the Plan may be needed depending upon the findings and recommendation of more extensive air quality analysis of transportation plans, programs and projects, and their identifiable air quality impacts. Similarly, future updates to this Transportation Plan may be required to insure the inclusion of all reasonable and feasible transportation control measures which exhibit beneficial effects on air quality throughout the Lower Pioneer Valley Region and/or its subareas.







## Section VI - Future Directions

The decade of the 1980's will bring forth new and innovative concepts for solving our changing transportation needs. As the preceeding decades were marked by investments in new capital facilities, both highway and public transportation oriented, the 1980's should focus on the continuous utilization and reapplication of all components of our existing transportation system.

Rail lines abandoned in past years must be revitalized or, at least, maintained in order to meet ever changing travel requirements. Bikeways, previously considered as a passive mode of transport, have increasingly surfaced as a viable means of meeting our travel demands, and steps must be taken to provide suitable facilities to satisfy these demands. The region's waterways, principally the Connecticut River, were once a primary means for transporting people and goods and in a period of changing demand and supply must be reapplied.

The most critical issue to surface in the last few years has been the increasing scarcity and rising costs of petroleum supplies and the resultant need to conserve energy, especially in the area of transportation. Plans, program and projects must direct increased emphasis on how they can bring about increased energy conservation within the transportation sector in light of probable fuel supply shortfalls and continuing price increases.

The issue of maintaining the quality of our environs surfaced as a primary concern during the 1970's, and has become an integral element of the ongoing transportation planning process. Though positive steps have been taken in the consideration of environmental concerns, efforts must continue to be made to upgrade and refine the environmental review process and to address specific environmental problems such as air pollution.

The preceeding period was also characterized by increasing public participation in the transportation planning and decision-making process. Many projects were either formed or deleted based on concerns expressed by impacted groups or individuals. This concept of broad, public participation must be further enhanced so as to further enlighten affected communities and to broaden the range of plan and project review.

A number of issues have already surfaced which will direct the transportation planning process for the 1980's and beyond. The planning process must, however, be sensitive and responsive to rapidly changing needs, issues and priorities, and newly developed concepts in order to successfully plan for the LPV Region's future transportation demands.

